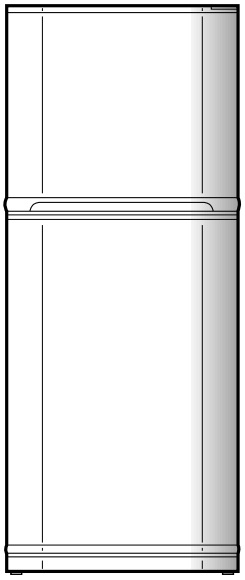
SHARP SERVICE MANUAL

S7839SE55BPWO



REFRIGERATOR-FREEZER

MODELS **SJ-48H-WH**
SJ-51H-WH
SJ-55H-WH

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

DESTINATION .....O

Refrigerant; HFC-134a
Refer to "HFC-134a COOLING UNIT" Service Manual for handling this refrigerant.

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SHARP CORPORATION

SPECIFICATIONS

Items		SJ-48H	SJ-51H	SJ-55H
Type		2-Door	2-Door	2-Door
Outer dimensions (Including spacer)	Height	1620mm(63.8")	1700mm(66.9")	1820mm(71.7")
	Width	735mm(28.9")	735mm(28.9")	735mm(28.9")
	Depth	705mm(27.8")	705mm(27.8")	705mm(27.8")
Rated storage volume		443 liter (15.6 cu.ft) F: 139 liter (4.9 cu.ft) R: 304 liter(10.7 cu.ft)	473 liter (16.7 cu.ft) F: 139 liter (4.9 cu.ft) R: 334 liter(11.8 cu.ft)	521 liter (18.4 cu.ft F: 139 liter (4.9 cu.ft) R: 382 liter(13.5 cu.ft)
Rated gross volume		475 liter (16.8 cu.ft) F: 163 liter (5.8 cu.ft) R: 312 liter(11.0 cu.ft)	505 liter (17.8 cu.ft) F: 163 liter (5.8 cu.ft) R: 342 liter(12.0 cu.ft)	550 liter (19.4 cu.ft) F: 163 liter(5.8 cu.ft) R: 387 liter(13.6 cu.ft)
Defrosting	System	Heater system		
	Start	Automatic		
	Finish	Automatic		
Temperature control		Automatic (Adjustable)		
No-frost freezer		Yes		
Interior lamp		1		
Caster		4		
Evaporating pan		1		
Refrigerator Compartment	Refrigerator shelf S	—	1	1
	Refrigerator shelf L	1	1	2
	Glass shelf	1		
	Fruit and Vegetable crisper	1		
	Egg pocket	1		
	Egg holder	2		
	Bottle pocket	2		
	Free pocket	1		2
	Chilled case	1		
Freezer Compartment	Freezer shelf L	1		
	Freezer shelf S	1		
	Ice cube maker	Twin ice cube maker		
	Ice cube box	1		
Deodorizing system		No		

SOURCE, RATING AND NET WEIGHT

Items		SJ-48H	SJ-51H	SJ-55H
Rated voltage	(V)	220/230/240		
Rated frequency	(Hz)	50		
Climate class		T		
Rated input	(W)	172/178/184	182/186/190	
Rated input of heating element	(W)	137/150/163		
Refrigerant (Charging quantity)		HFC-134a(125g)	HFC-134a(130g)	
Net Weight	(kg)	79	84	88

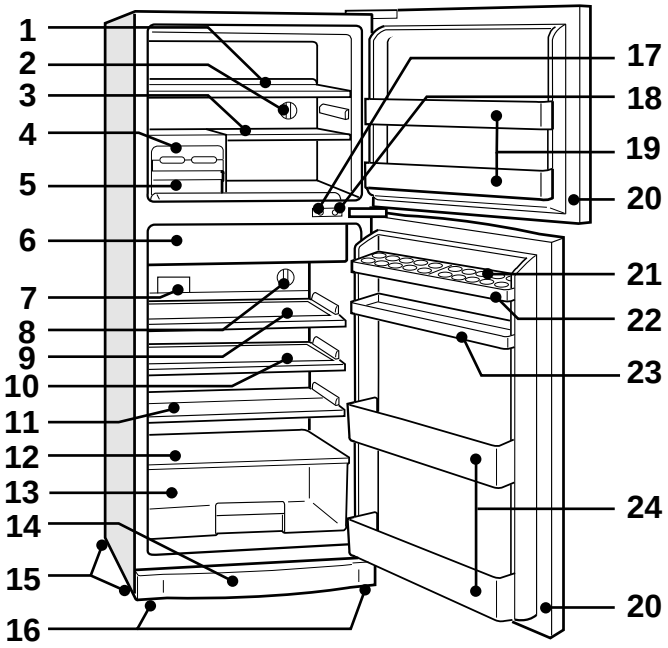
COLOR

Items	SJ-48H-WH, SJ-51H-WH, SJ-55H-WH
Outside color	White
Inside color	White

OPTIONAL ITEM

SJ-L815HD(REFRIGERATOR HINGE KITS). For changing the door to left side opening.

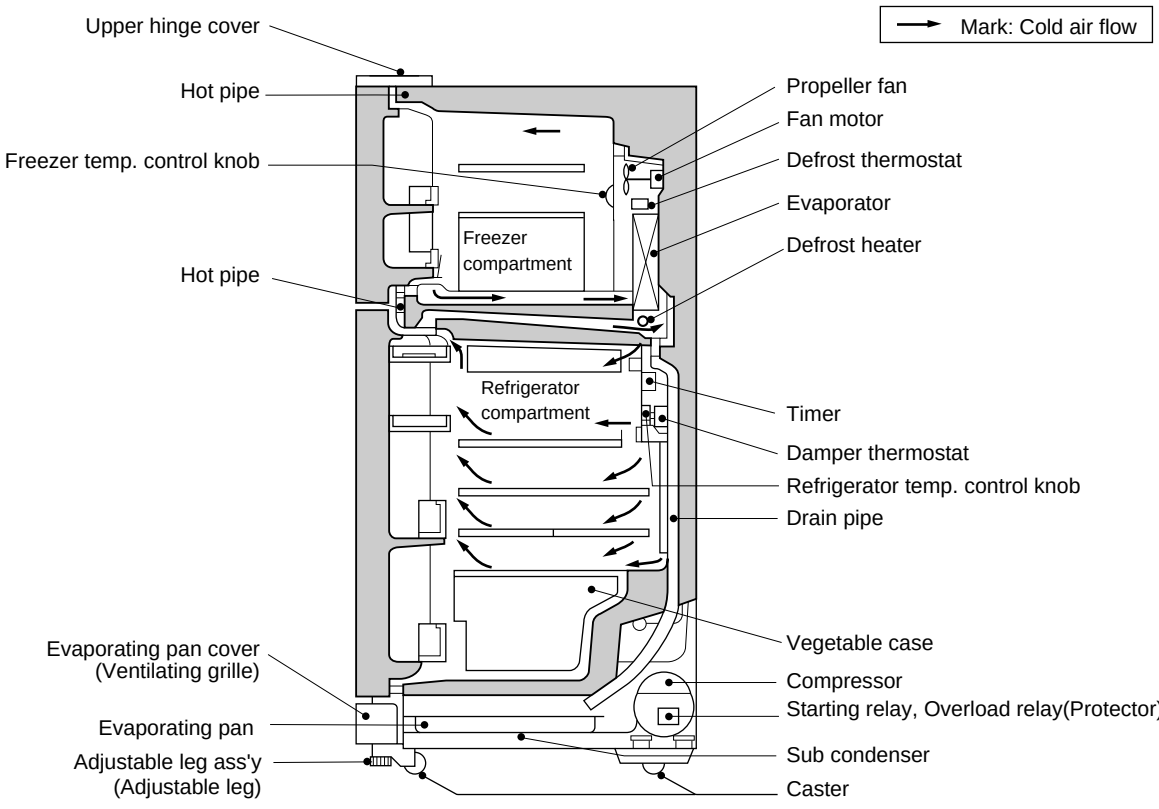
DESIGNATION OF VARIOUS PARTS



The names in parenthesis are the denominations used in the REPLACEMENT PARTS LIST.

1. Freezer shelf (LARGE) (Freezer tray L)
2. Freezer temp. control knob
3. Freezer shelf (SMALL) (Freezer tray S)
4. Ice cube maker
5. Ice cube box (Ice storage box)
6. Chilled case
7. Light (Lamp)
8. Refrigerator temp. control knob
9. Refrigerator shelf S (Ref. tray ass'y) (SJ-51H, SJ-55H only)
10. Refrigerator shelf L (Ref. tray L ass'y) (SJ-48H 1, SJ-51H 1, SJ-55H 2)
11. Three position adjustable shelf (Free set shelf)
12. Glass shelf
13. Fruit and Vegetable crisper (Vegetable case)
14. Evaporating pan & Cover
15. Caster
16. Adjustable feet (Adjustable leg ass'y)
17. Fan switch
18. Fan & light switch
19. Freezer pocket (F door pocket HS)
20. Magnetic door seal (Door packing)
21. Egg holder (Egg tray)
22. Egg pocket (Egg pocket HS)
23. Free pocket (Utility pocket HS) (SJ-48H 1, SJ-51H 1, SJ-55H 2)
24. Bottle pocket (Bottle pocket HS)

Figure D-1. External Description



※ This figure shows SJ-51H.

Figure D-2. Constructions

LIST OF ELECTRICAL PARTS

ITEMS	TYPE NAME	RATING	SPECIFICATIONS
F-Thermostat	MM1-8025	125V 6A 250V 3A	(At normal notch) ON/OFF : -17/-22˚C
Defrost thermostat	US-602S	250V 8A	Open/Close : 10/1˚C
Thermo. fuse	SF70E	250V 10A	Working temp. : 70˚C
	MGT4A50072	250V 10A	Working temp. : 72˚C
Fan motor	3R00044B	220 - 240V 50Hz	Working with ø100 fan
Defrost heater	MM6-4015	at 230V 150W(220-240V)	Without deodorizer
Door switch	MM1-7B01	250V 0.25A	3 terminals push-button type
Damper thermostat	MM1-6129	—	Open/Close : 0.5/-4˚C
Defrost timer	TMDF904FD2	220-240V 50Hz	Integration type Cycle time : 10.8 hours(50Hz) Delay time : 4.3 min.(50Hz)
Lamp socket	—	250V 1A	E-12(Hard plastic body type)
Lamp	—	240V 10W	E-12

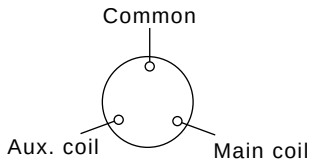
SJ-51H, SJ-55H

Compressor	GL-99BH	220-240V/50Hz	Cooling capacity : 210kcal/h(50Hz) Main/Aux. coil : 8.5/15.0Ω(at 20˚C)※
Starting relay	PTH490D35AS 140N320-T	—	14Ω±20%
Protector	4TM308NFBYY	—	Open/ Close : 120/61˚C
Running capacitor	—	400VAC 6μF	—

SJ-48H

Compressor	GL-90BH	220-240V/50Hz	Cooling capacity : 192kcal/h(50Hz) Main/Aux. coil : 8.8/17.7Ω(at 20˚C)※
Starting relay	PTH490D35AS 140N320-T	—	14Ω±20%
Protector	4TM276NFBYY	—	Open/ Close : 120/61˚C
Running capacitor	—	400VAC 6μF	—

※COIL POSITION OF COMP.



WIRING DIAGRAM

Be sure to replace the electrical parts with specified ones for maintaining the safety and performance of the set.

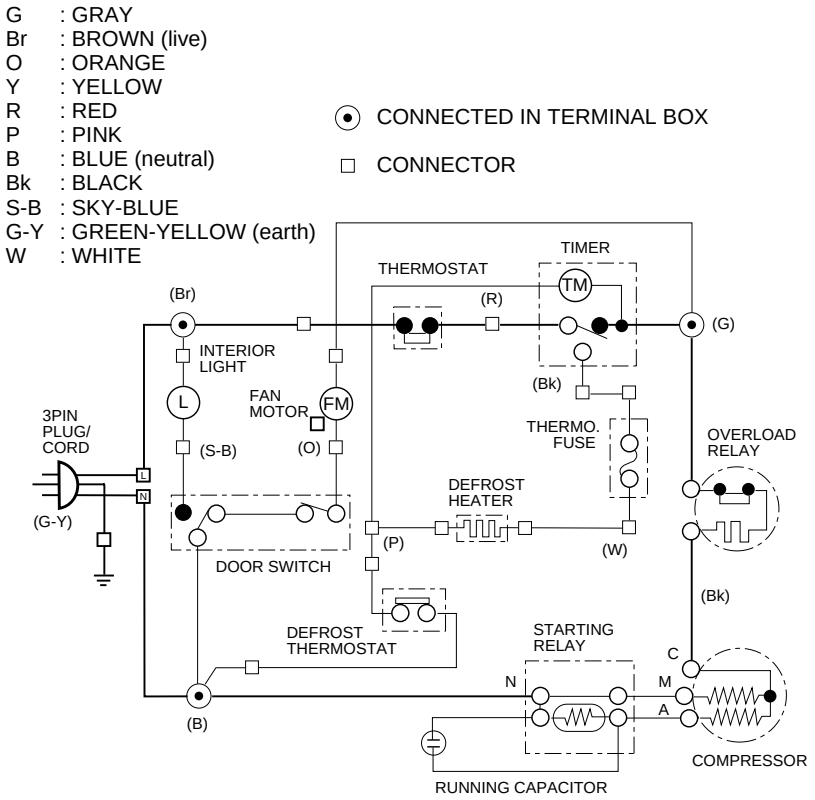


Figure W-1. Wiring Diagram

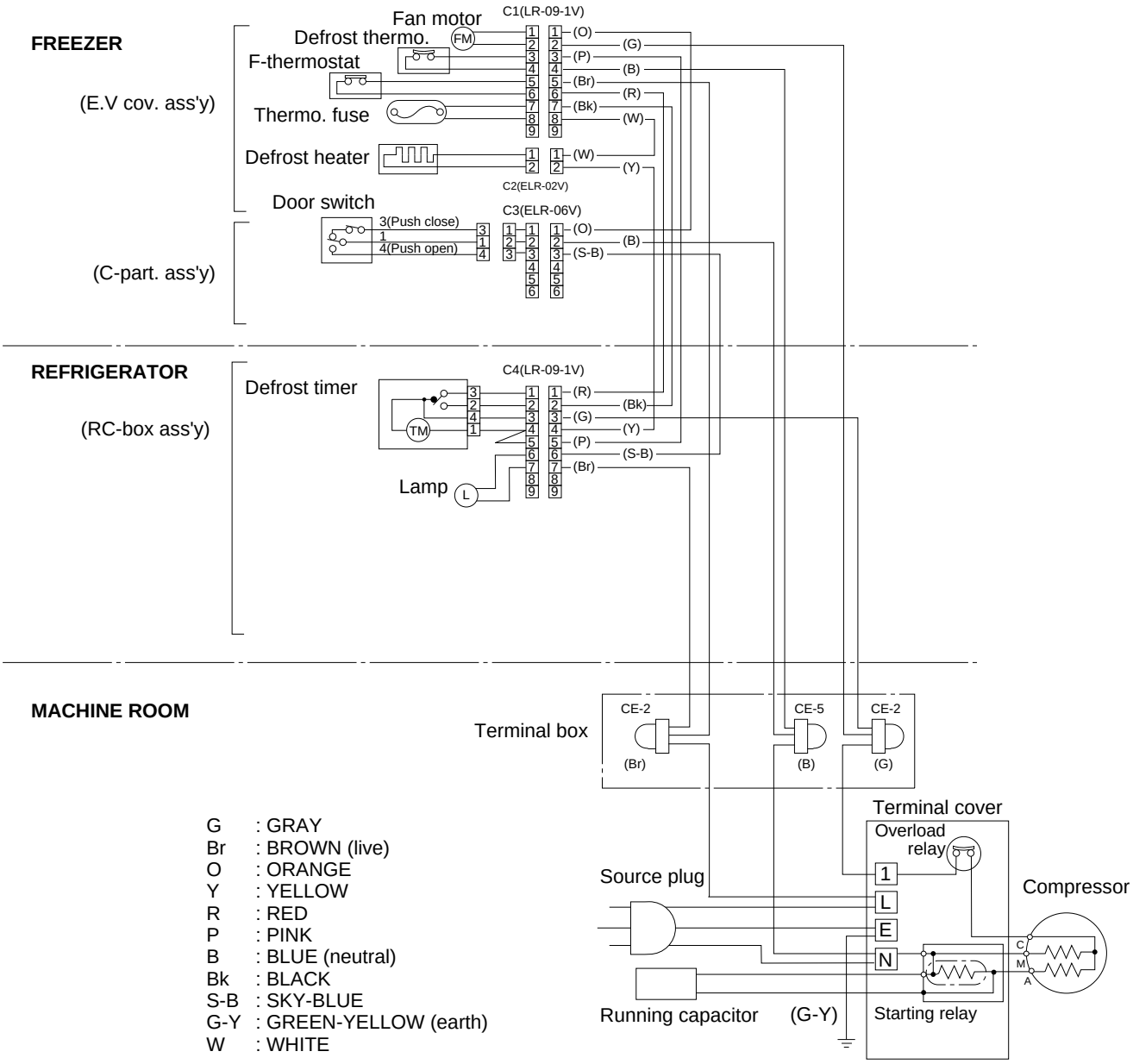


Figure W-2. Electric Accessories Layout

FUNCTIONS

1. ADJUSTABLE TEMPERATURE CONTROL

(1) Temperature control of freezer

- Thermostat (senses freezer temperature) operates on ON/OFF switch over to control the compressor and allows the freezer temperature to keep at a suitable temperature.
- However adjust the freezer temp. control knob as follows depending upon the storing condition of foods.

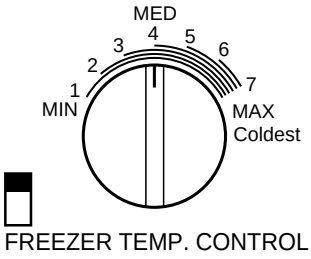


Figure F-1.

KNOB SETTING	PURPOSE
MAX(Coldest)	● For making ice rapidly or fast freezing.
⬆	● When restocking with fresh food.
MED	● For normal freezing.
⬇	● For storing frozen food for a short period (up to one month).
MIN	● When frozen food or ice cream is not stored.

(2) Temperature control of refrigerator

- Damper-thermostat senses temperature of the refrigerator and changes the opening angle of the damper automatically.
  However, as the Damper-thermostat has no function to switch on or off the compressor and cool air circulating fan, the freezer temperature control causes temperature in the refrigerator to vary to some extent.
- However, adjust the refrigerator temp. control knob as follows depending upon the cooling condition.

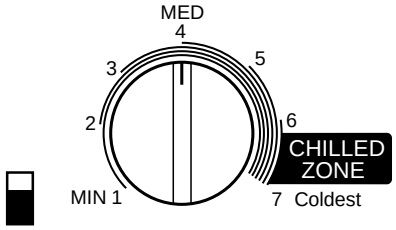


Figure F-2.

KNOB SETTING	PURPOSE
CHILLED ZONE (Coldest)	● For keeping freshness of food longer.
⬆	● When the refrigerator does not provide sufficient cooling.
MED	● For normal operation.
⬇	● When the refrigerator provides excessive cooling.
MIN	

NOTE:
- The refrigerator temperature is affected also by the freezer temperature. If the freezer temp. control knob is set at the position "MAX", the temperature tends to be lower than the following values, and if set at near the position "MIN", temperature tends to be higher.
- If the refrigerator is operated for a long time with the freezer temperature control sets the "MAX" position, foods stored in the refrigerator compartment may also freeze.
- When refrigerator temperature control sets to the "CHILLED ZONE", some foods stored may freeze.
  In this case adjust control set back to the "MED" position.
- When refrigerator temperature control sets to the "CHILLED ZONE", some foods stored in fresh cases may also become frozen.

(3) Reference value of temperature

SETTING OF FREEZER TEMP. CONTROL KNOB	MAX (Coldest)	MED	MIN
Freezer temperature	Approx. -21˚C	Approx. -18˚C	Approx. -15˚C

SETTING OF REFRIGERATOR TEMP. CONTROL KNOB	CHILLED ZONE (Coldest)	MED	MIN
Refrigerator temperature	Approx. 0˚c	Approx. 3˚c	Approx. 6˚c
Chilled room temperature	Approx. -3˚c	Approx. 1˚c	Approx. 4˚c

The values shown above refer to the case where the freezer temp. control knob is set at "MED".

The values shown above refer to the measurement carried out center area and 1/3 of overall height from the bottom at each of the refrigerator and the freezer after machine has been operated at an ambient temperature of 30˚C with no food stored and the door closed until the temperature is stabilized.
The values vary depending upon frequency of opening and closing the door, ambient temperature, amount of stored foods and manner of storing foods.

2. DEFROSTING

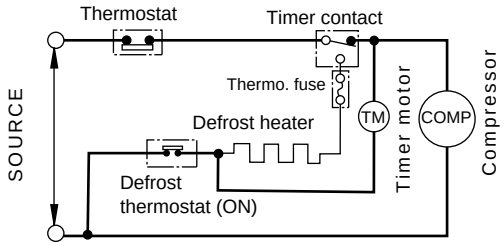
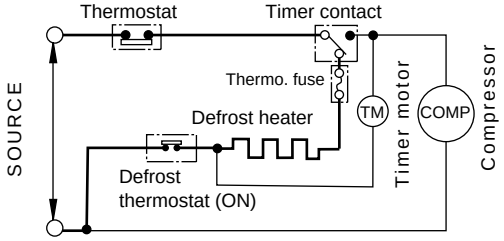
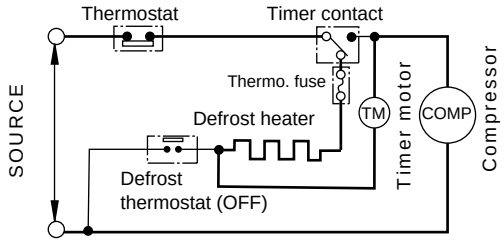
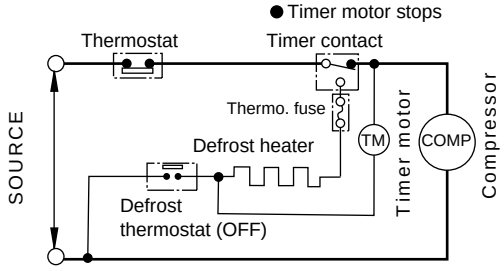
(1) No defrosting operation is necessary

No defrosting operation is necessary.
As this machine is so designed that a built-in evaporator cools air and a fan circulates cooled air, neither the freezer nor the refrigerator is frosted, though the evaporator is frosted.
The frosted evaporator is defrosted automatically due to the function of defrosting timer and heater, requiring no defrosting operation.

(2) Where is melted ice brought

1. Melted ice is brought into the evaporating pan at the bottom of the set and is evaporated here by the heat of sub condenser.
2. Be sure to use the evaporating pan as inserted so as to be level with the outer case.

(3) The following circuit diagrams in the table show automatic defrosting function of the refrigerator with timer and defrost thermostat.

Operation	Electric diagram	Description
1. Cooling (Normal)	● Defrost thermostat ON ● Compressor running ● Timer motor running  Figure F-3.	The integration timer integrates running time of the compressor. When it reaches 10 hours 50 min. at 50Hz, the timer contact is changed to start defrosting.
2. Defrosting (Time 20 to 30 min.)	● Defrost thermostat ON ● Compressor stops ● Timer motor stops  Figure F-4 .	● The timer contact is changed to start defrosting, the timer motor stops, and power is supplied to the defrost heater. ● It takes about 20 to 30 min. to defrost. When little frosted, the defrosting takes little time. When much frosted, the defrosting takes much time.
3. Drain (Time approx. 5 min.)	● Defrost thermostat OFF ● Compressor stops ● Timer motor running  Figure F-5.	When the defrost thermostat becomes OFF, the timer motor starts running. During the operation time(4 min. 20sec. /50Hz) defrosted water is drained outside the refrigerator.
4. Restart (Time approx. 5 min.)	● Defrost thermostat OFF ● Compressor running ● Timer motor stops  Figure F-6.	● Timer contact is changed to cooling operation and the compressor starts running and the timer motor stops. ● Defrost thermostat contact becomes ON when it's cooled. And the timer motor starts running. (Figure F-3.)

(4) As a reference to determine the causes of trouble, malfunction and phenomena are described below. Refer to the following when repairing.

1. Disconnection of defrost heater
As off-cycle defrosting is performed, the defrosting time is extremely prolonged. Each time defrosting is started, the freezer temperature rises and a portion of ice and stored foods are melted.

2. Melted thermo. fuse or opened-circuit due to the defect of defrost thermostat.
When the above mentioned trouble occurs in cooling operation, the timer motor does not run, defrosting will not take place, and consequently freezing is caused. In the above mentioned condition, when the timer shaft is turned by hand to defrost, the timer motor runs during the operation time. However, the motor stops from the time when the contact is changed, and freezing causes.

NOTE:
- As the thermo. fuse assembly is intended to prevent dangers, do not use it under shorted condition even for a short period.

3. DEW PREVENTION

The hot pipe, namely D.P.-condenser, is arranged around the flange part of cabinet and the C-partition plate, preventing dew from being generated on the cabinet.

NOTE:
- D.P.-condenser pipe may be felt hot if touched by hand while the compressor is in operation.
- If you are asked about this, please explain that the hot pipe serve to prevent the dew generation.

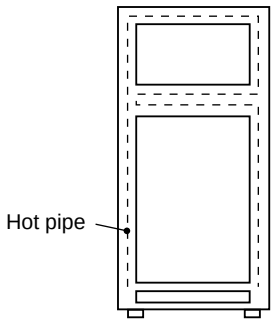


Figure F-7

4. INSPECTION OF INITIAL STARTING

(1) Inspection of cooling unit

1. Set the temperature control knob to "MAX" and check that the compressor starts to operate.
2. Depress the door switch to run the fan and check that cool air is blown out of the cold air outlet of the freezer and the refrigerator.
3. When the compressor does not work, check that the timer is not set to "defrost" position.
4 It takes about an hour and a half or two hours to put food in the refrigerator after starting operation.

NOTE:
- After return the temperature control knob to "MED" position.
- When the refrigerator is operated initially after installed, the compressor may vibrate excessively for 1 to 2 min. However, vibration becomes normal if it is continuously operated.

(2) Inspection of defrost device

Operate the refrigerator for 20 to 30 min. and then check the defrost device in the following procedures :
Allow 5 min. to restart the compressor since immediate starting after stopping will cause unsmooth operation.

1. Turn the timer shaft clockwise with a screw driver.
   At this time, make certains the timer clinks and the compressor stops.
2. After more than 5 min., turn the shaft further to operate.
   Make certain cooling operation is started again.

NOTE:
- It's not necessary to switch the timer by changing of source frequency (50Hz, 60Hz).

MODIFICATION PROCEDURE OF THE DOOR OPEN SIDE

It is possible to change the door to left side opening.
To modify the door to left side opening, REFRIGERATOR HINGE KITS (for left side opening) SJ-L815HD (optional item)is necessary.

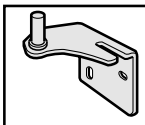
SJ-L815HD OPERATION MANUAL

SHARP

REFRIGERATOR HINGE KITS (for left side opening)
Model SJ-L815HD

These kits are used to change the refrigerator doors from right to left opening.
If you wish to change the door to left opening for some reason, such as restricted installation space, **ask your authorized service agent for this modification**.

Parts list

			
A Bottom hinge L	B Stopper spring L (for upper door)	C Stopper spring L (for lower door)	D Nylon bearing (for upper door)

E Nylon bearing (for lower door)	F Bearing cap	G Screw cover (2 pieces)	H Screw cover	J Silicon grease

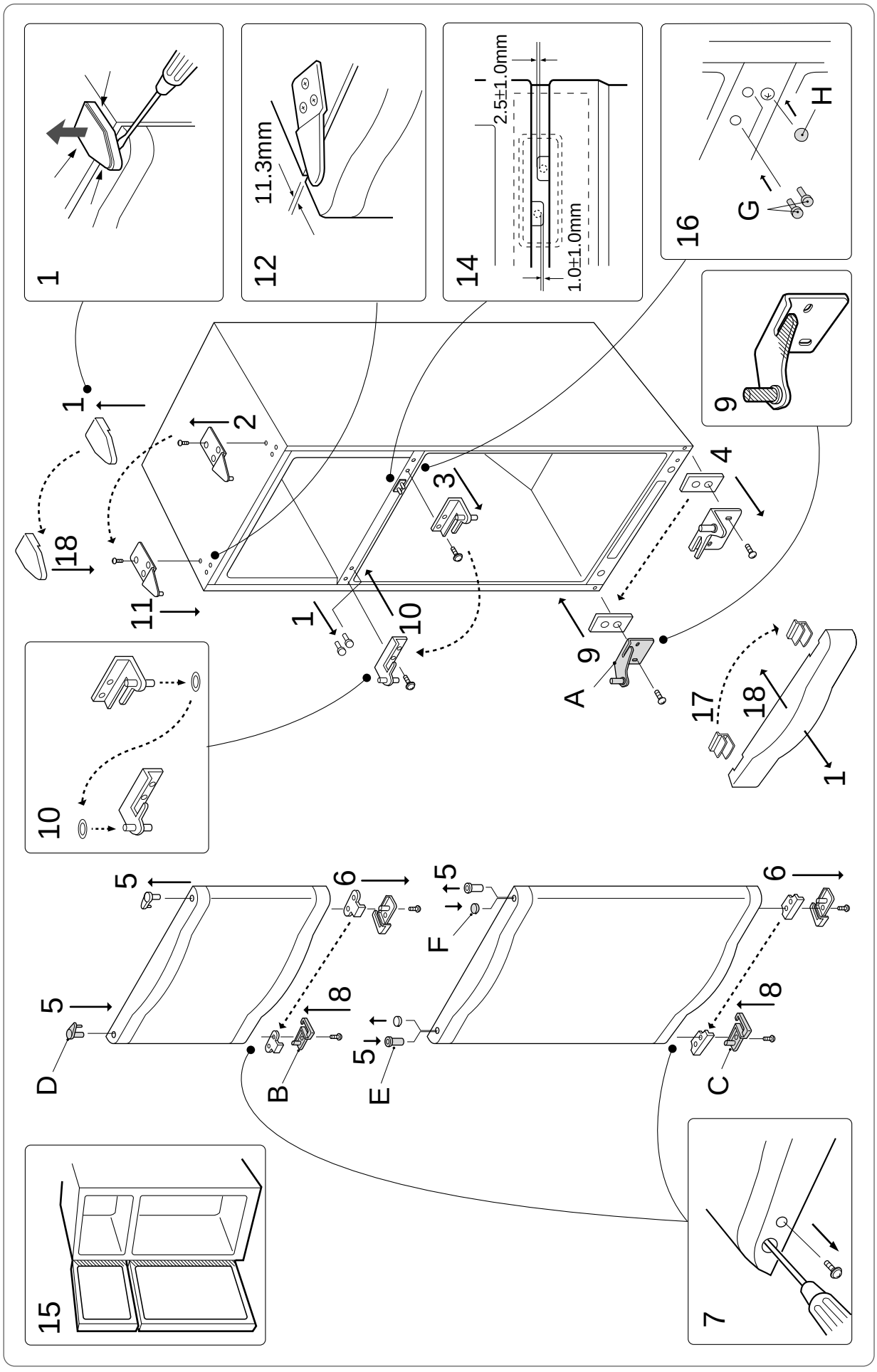
Tools required
- Cross head and flat blade screwdrivers
- Socket wrench or spanner (8 mm) (The socket wrench or spanner is used to detach and attach hinges.)

Caution
- Caution should be taken when handling the doors. These are heavy and could cause personal injury if mis-handled.
- Always tighten screws securely.
- Reattach the door paying careful attention to the door alignment.
  Failure to fit the door correctly might cause cooling air to leak out and lower the refrigerating capability.

Fitting Instruction

Symbols used in the drawing have the following meanings.
1 - 18 : Modification procedure No.
⟶ : Detach/Attach
- - -→ : Move

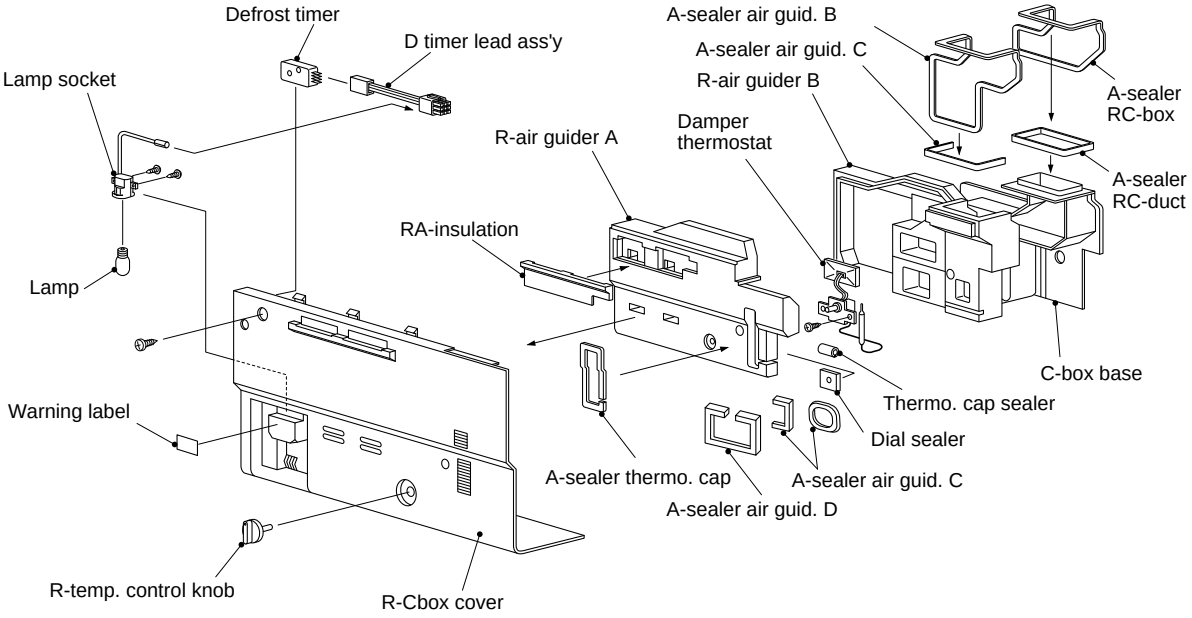
1. Remove the evaporating pan cover, upper hinge cover, and 2 screw covers.
   (Carefully remove the upper hinge cover using a screwdriver, making sure that the door cap is not damaged.)
2. Remove the upper hinge and detach the upper door. (To remove the door, lift it off the center hinge.)
3. Remove the center hinge and lift the lower door off the bottom hinge.
4. Remove the bottom hinge and spacer.
5. Remove the nylon bearing and bearing cap on the top of each door and attach the parts D, E, and F.
6. Remove the door stopper and stopper spring on the bottom of each door.
7. Remove the screw on the left of the door bottom and make a hole with a screwdriver for the insertion of the stopper spring.
8. Attach each door stopper and the parts B and C.
9. Apply silicon grease J to the shaded portion ▨ of the part A and attach it to the left side together with the spacer.
10. Insert the lower door and fit the center hinge. If the washer is provided, install it ON top. Tighten the screws temporarily.
11. Fit the upper door and attach the upper hinge. Tighten the screws temporarily.
12. Adjust the alignment of the door. Ensure that the gap between the cabinet and door cap is 11.3 mm. Tighten the upper hinge screws.
13. Secure the upper door. Open the lower door and tighten the center hinge screws. (No drawing is provided.)
14. Check that the distance to activate the door switch is correct and that each door opens and closes smoothly.
    To readjust the door position, loosen the center and bottom hinges.
15. Apply silicon grease J to the shaded portion ▨ of the door packing.
16. Attach the parts G and H.
17. Fit the cap in the evaporating pan cover into the notch on the right.
18. Reattach the evaporating pan cover and upper hinge cover.
19. After the above steps have been completed, check that each door functions correctly and that the interior lamp lights up and goes off when the door is opened and closed. (No drawing is provided.)


1
12
11.3mm
14
I
2.5±1.0mm
1.0±1.0mm
16
H
G
9
2
3
4
18
11
10
A
17
18
10
5
6
D
8
B
F
E
C
15
7

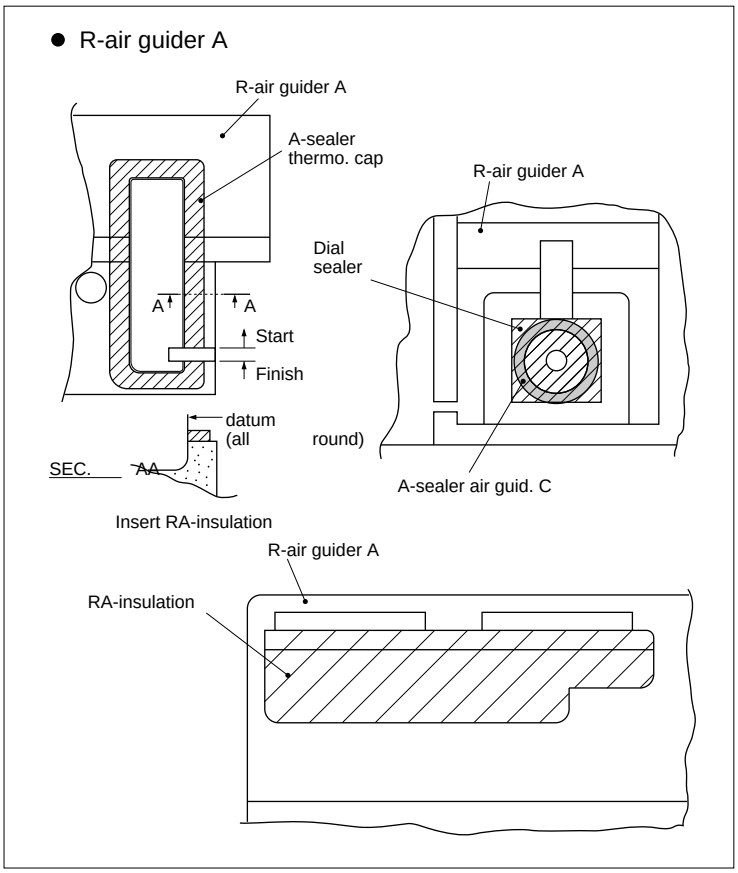
ASSEMBLING PROCEDURES OF MAIN PARTS AND CAUTIONS

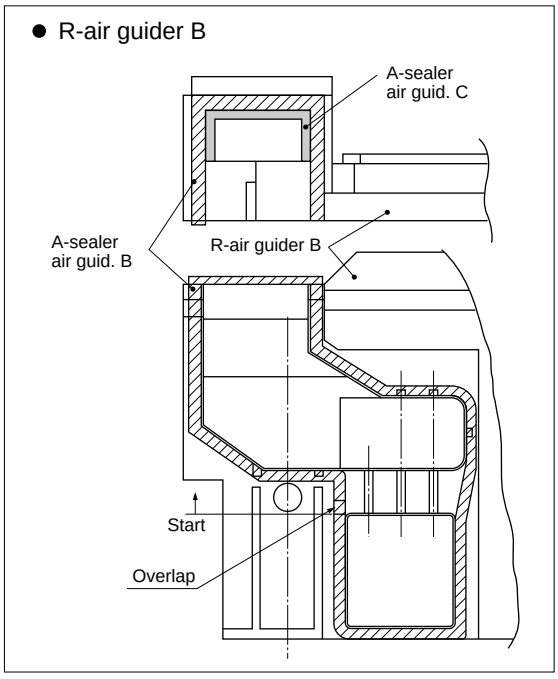
CAUTION: DISCONNECT THE UNIT FROM THE POWER SUPPLY BEFORE ANY REPAIRING.

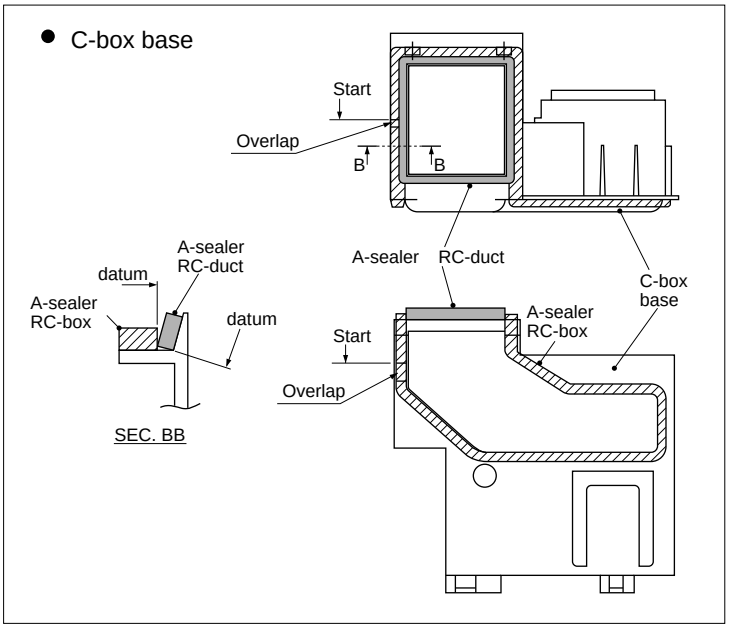
1. R-CONTROL COV. ASSEMBLY

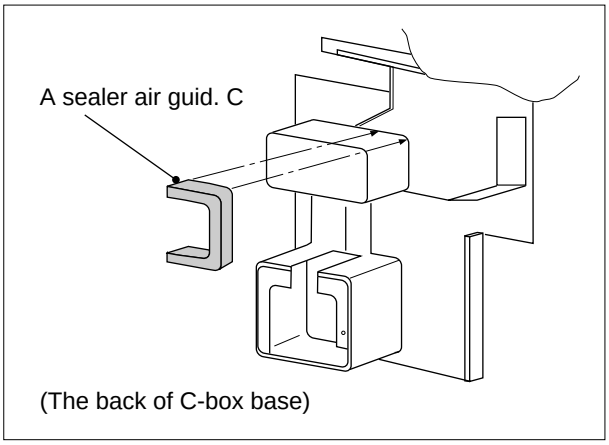


(1) Sticking of sealer

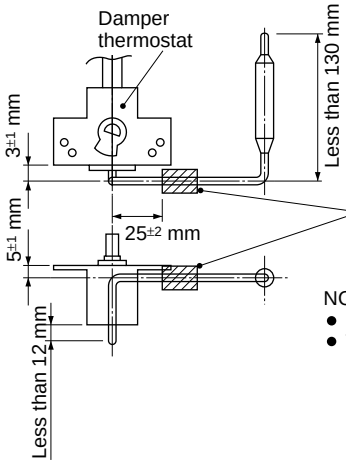






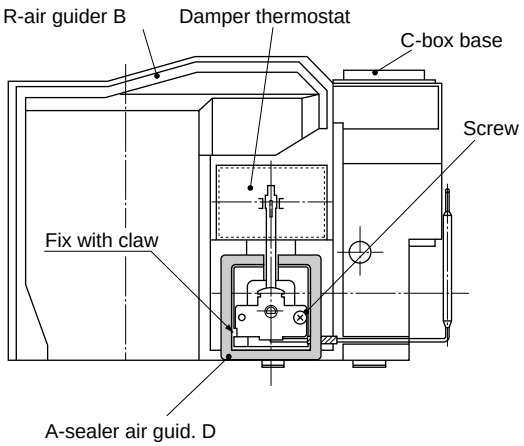


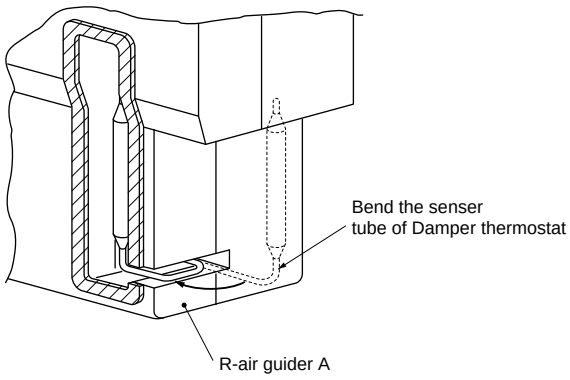
(2) Forming sensor of Damper thermostat

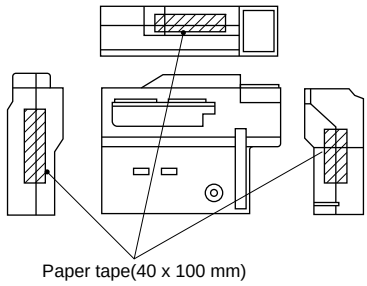


NOTE
- Minimum bending radius is R5.
- There should be no gas leak by reforming of sensor tube.

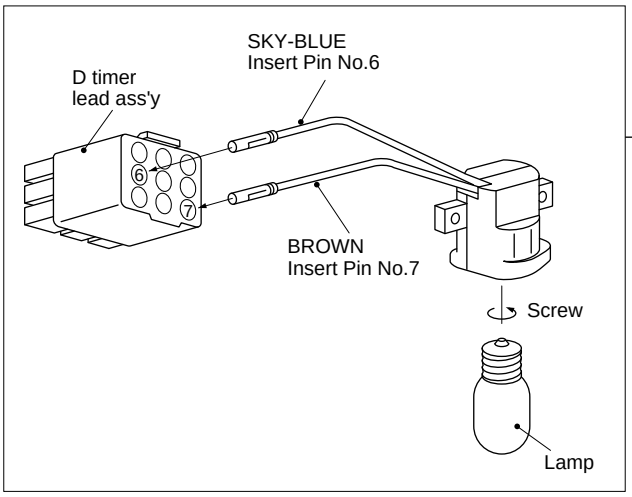
(3) Setting of C-box base, Damper thermostat, R-air guider A and R-air guider B

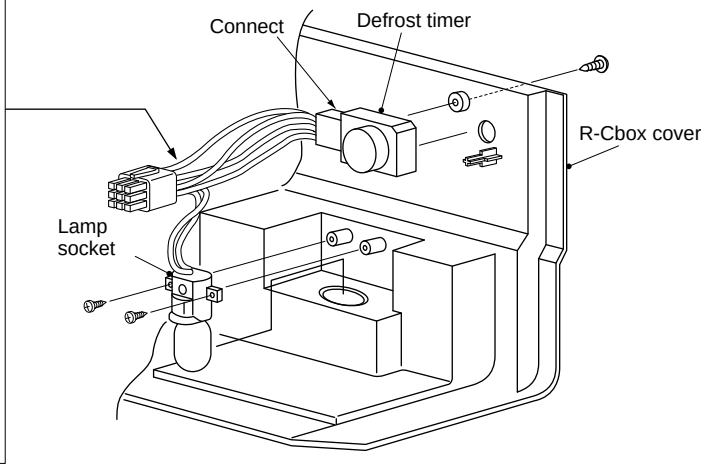




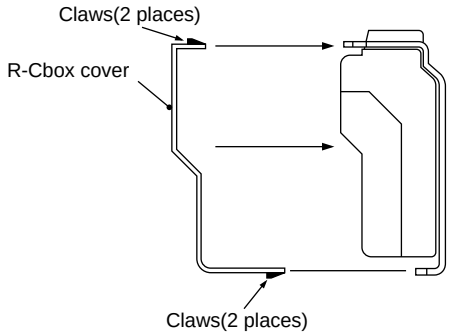


(4) Fixing of Lamp socket, Defrost timer

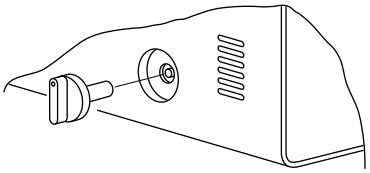




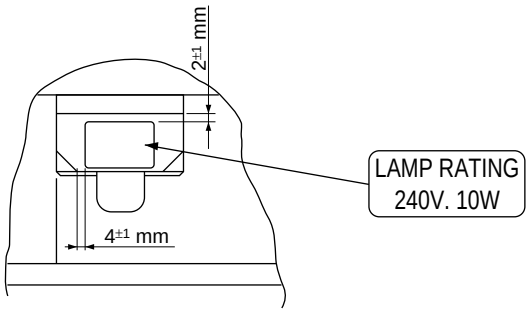
(5) Fixing of R-Cbox cover



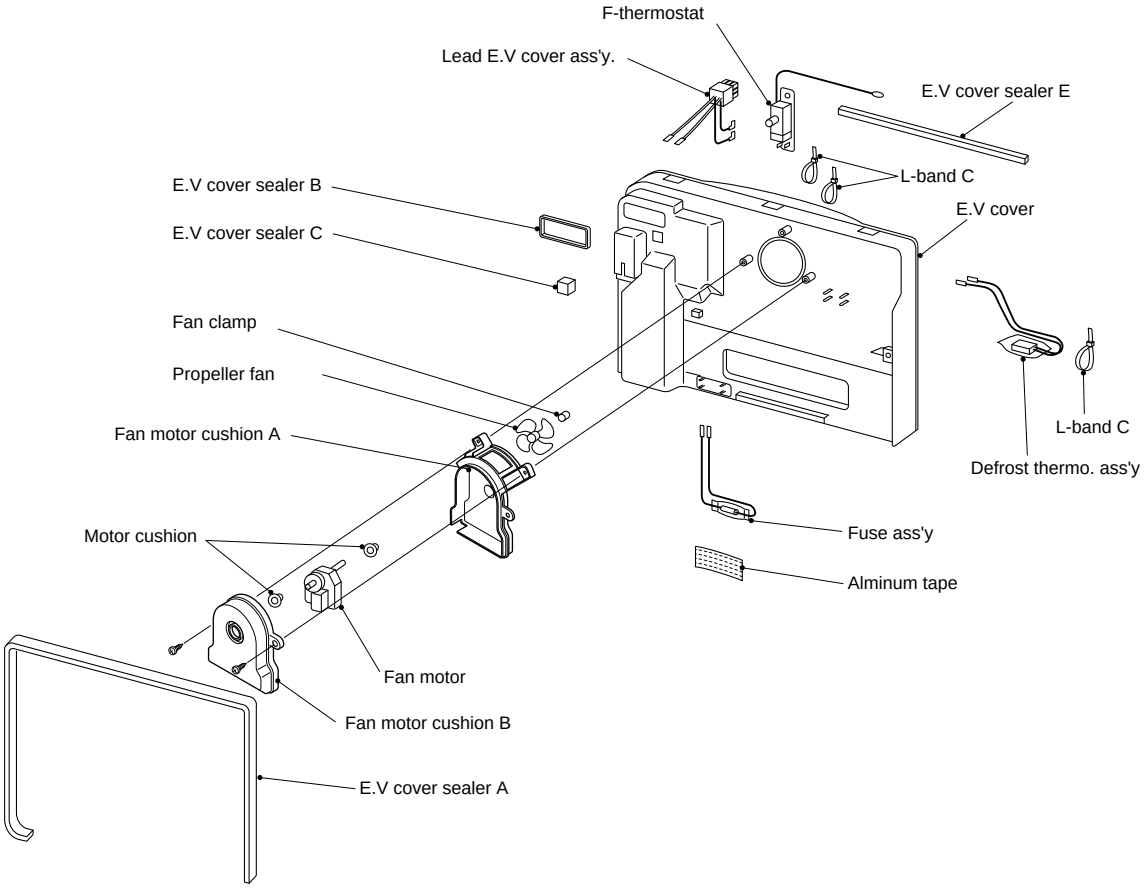
- Set R-temp. control knob



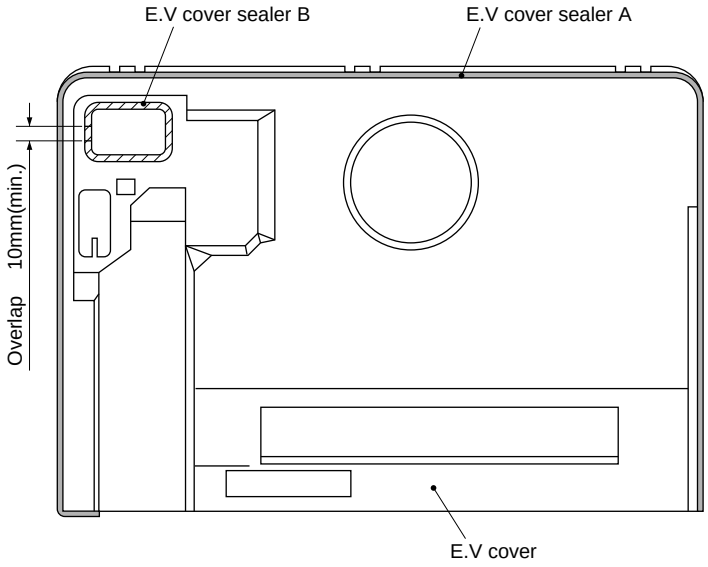
- Stick Warning label



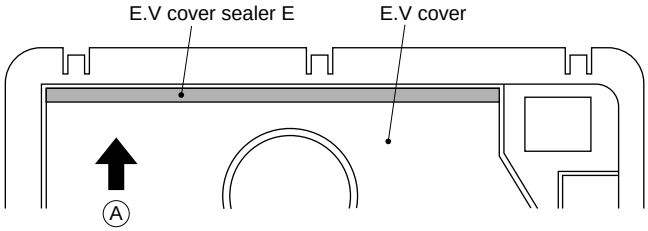
2. E.V COVER ASSEMBLY



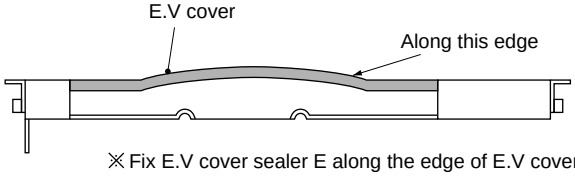
(1) Sticking of sealer to E.V cover



[Front View]

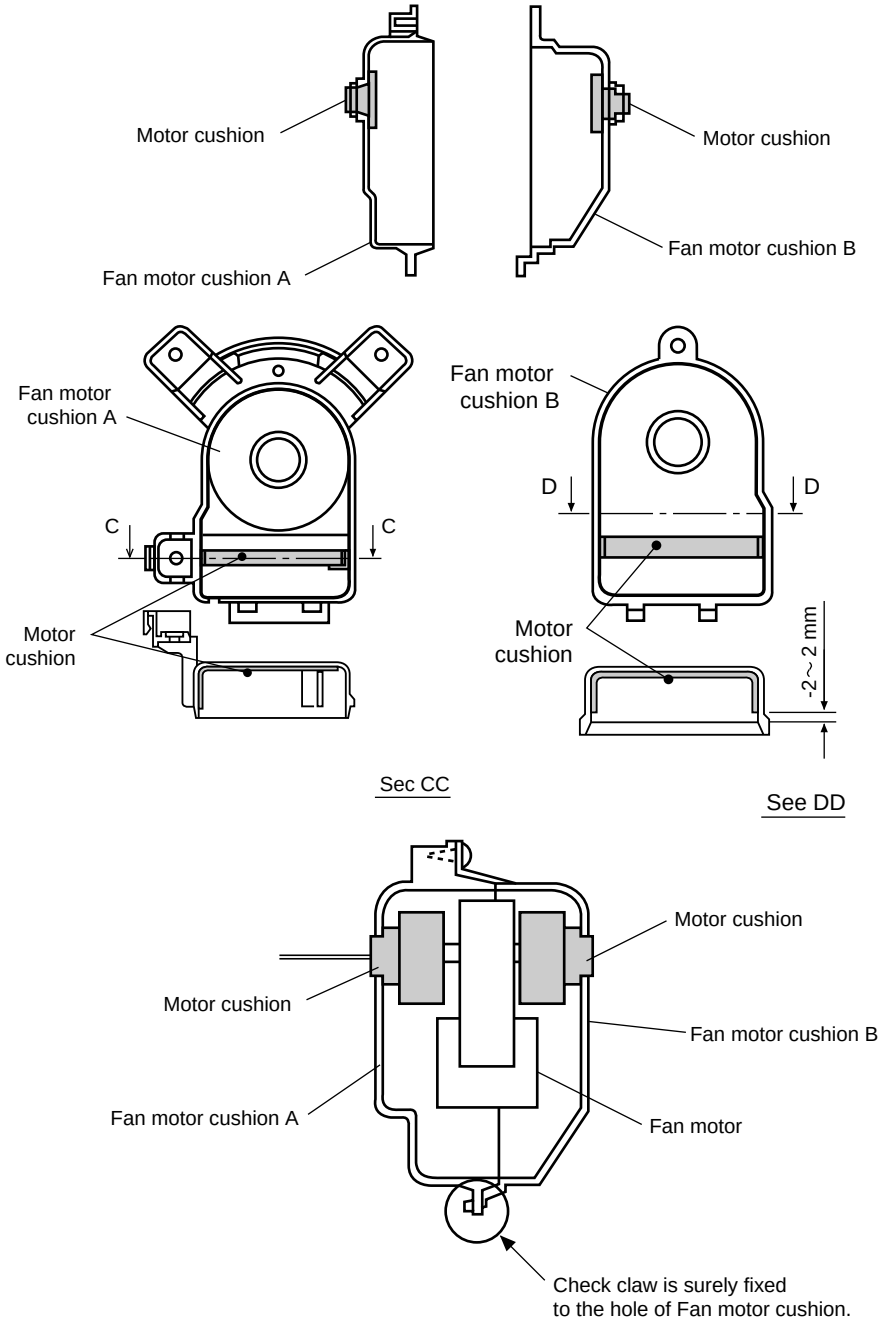


[View from Ⓐ direction]

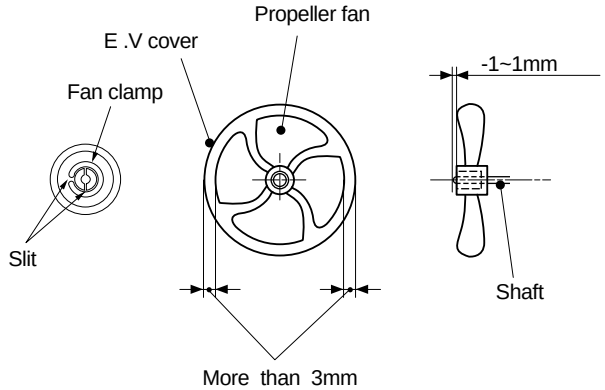


※ Fix E.V cover sealer E along the edge of E.V cover.

(2) Fixing of Fan motor and Fan

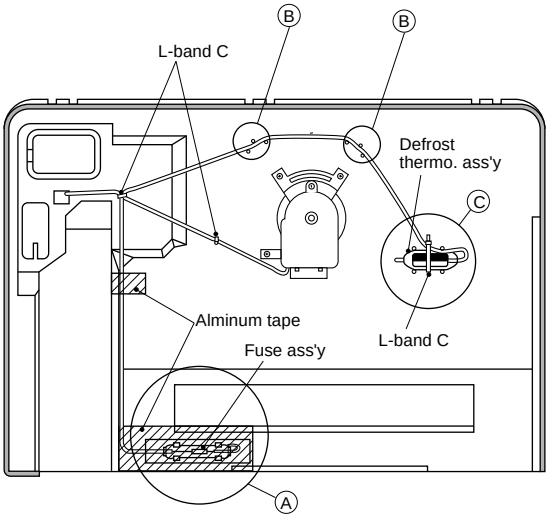


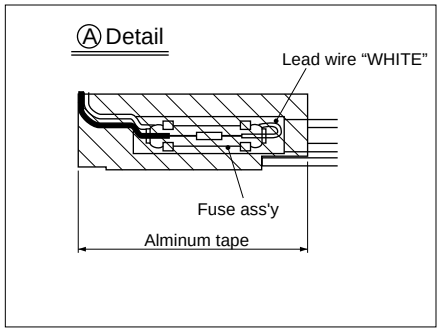
Set Fan clamp to Propeller fan and insert it to the shaft of Fan motor.

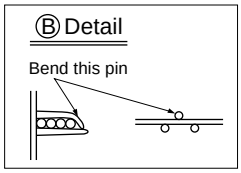


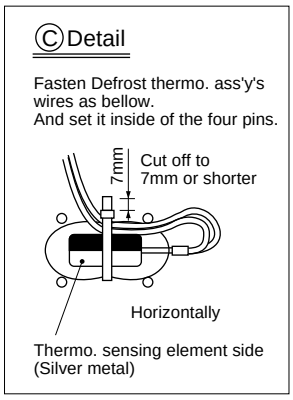
Slit of each Fan clamp and Propeller fan should not be at same position.

(3) Wiring of Lead Wire

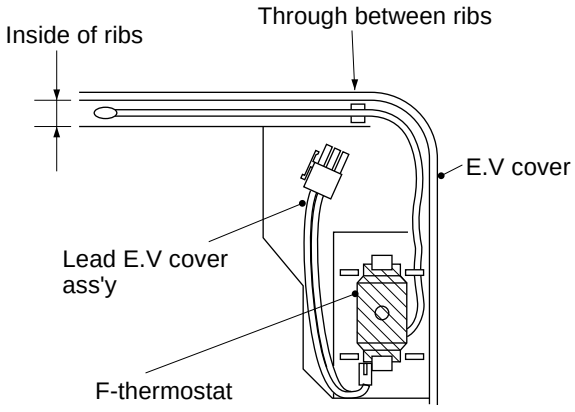


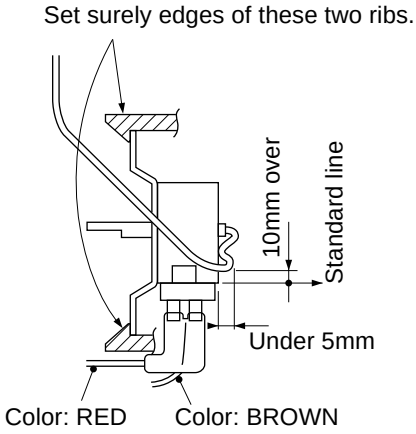




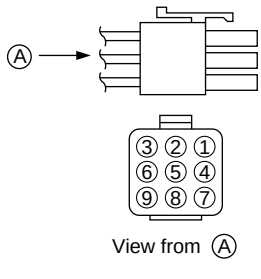


(4) Setting of Lead E.V cover ass'y and F-thermostat



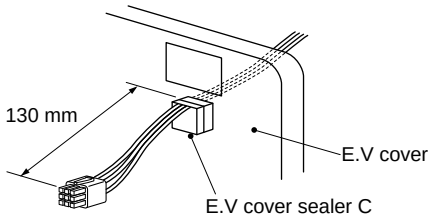


(5) Wiring of Connector



1. Lead E.V cover ass'y
2. Lead E.V cover ass'y
3. Pink lead of Defrost thermo. ass'y
4. Blue lead of Defrost thermo. ass'y
5. Lead E.V cover ass'y
6. Lead E.V cover ass'y
7. Black lead of Fuse ass'y
8. White lead of Fuse ass'y
9. No connect

(6) Fixing of E.V cover sealer C



COOLING UNIT

SJ-48H

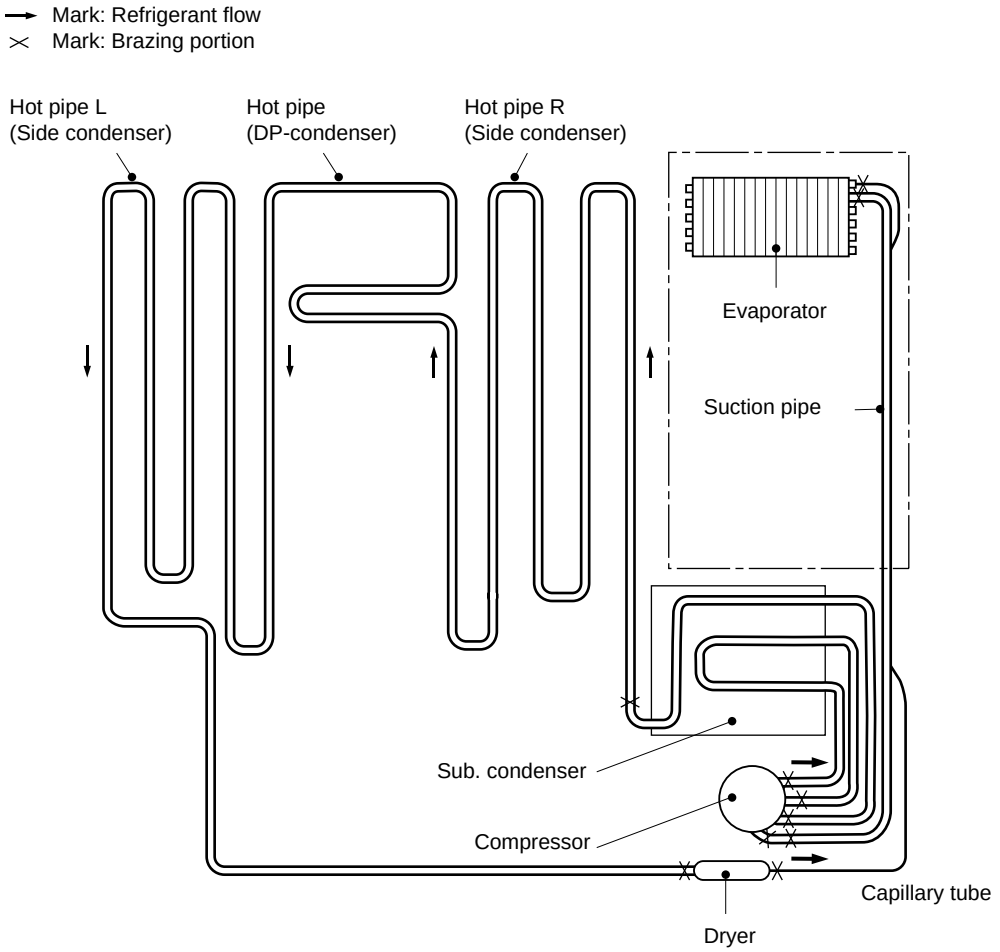


Figure C-1. Cooling unit

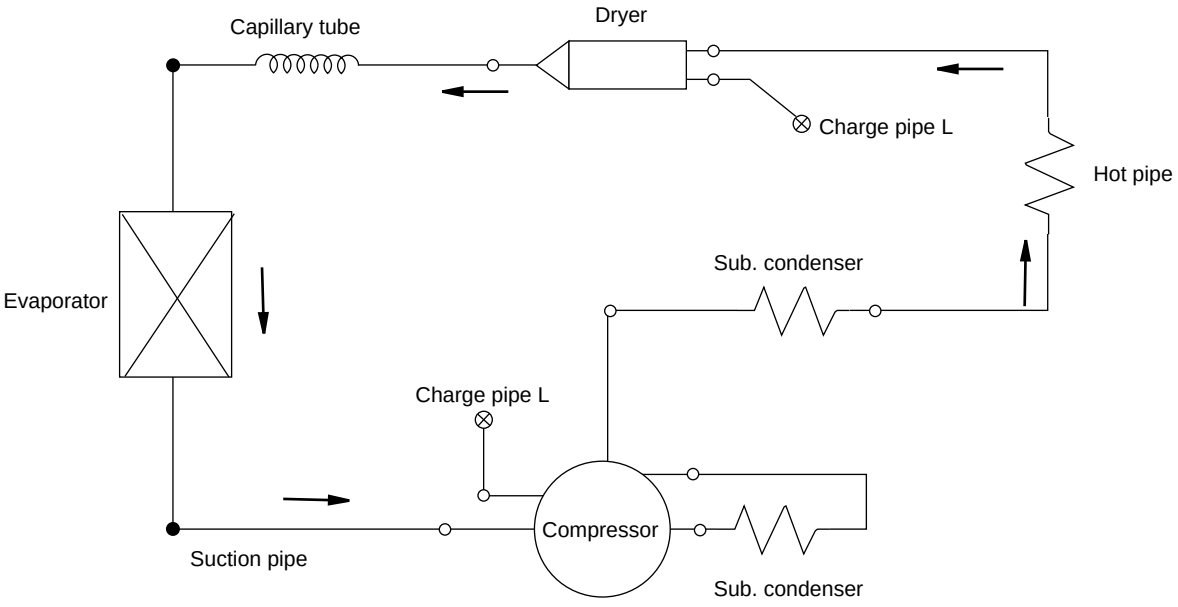


Figure C-2. Location

SJ-51H, SJ-55H

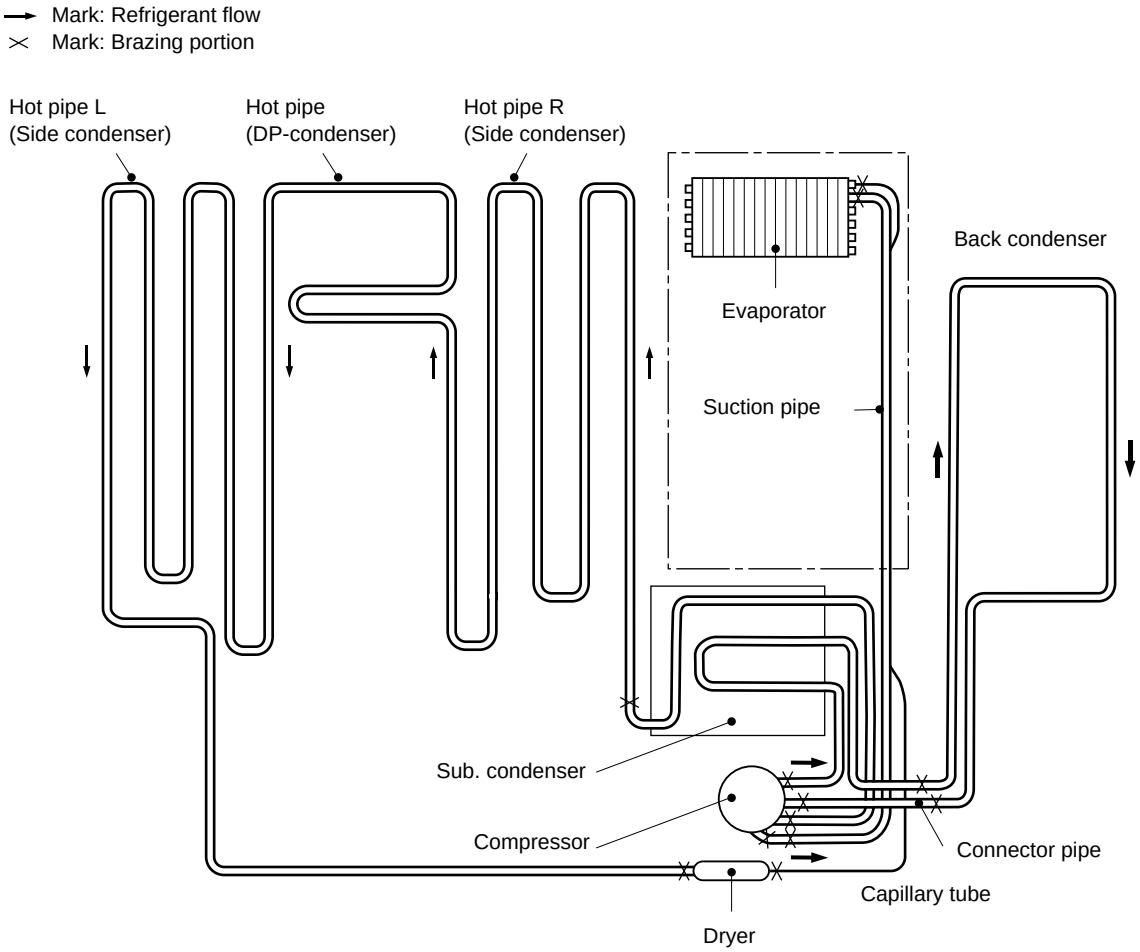


Figure C-3. Cooling unit

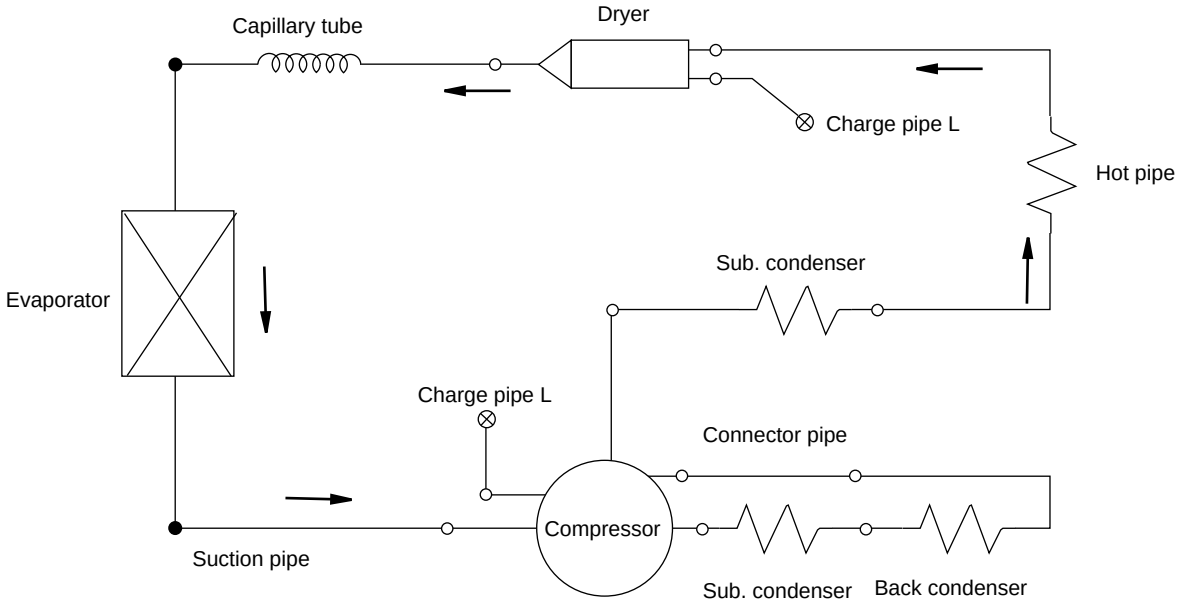


Figure C-4. Location

REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	Q'TY			CODE
			SJ-48H	SJ-51H	SJ-55H	
ELECTRIC PARTS						
1- 1	RTHM-A057CBE0	F-thermostat	1	1	1	BA
1- 2	RSTT-A126CBE0	Starting relay	1	1	1	AS
1- 3	QSWTDA035CBE0	Defrost timer	1	1	1	BB
1- 4	PDMP-A025CBE0	Damper thermostat	1	1	1	AZ
1- 5	FTHM-A012CBK0	Defrost thermo. ass'y	1	1	1	AQ
1- 6	RMOTRA040CBE0	Fan motor	1	1	1	AZ
1- 7	QSOCAA047CBE0	Lamp socket	1	1	1	AN
1- 8	RLMP-A012CBE0	Lamp	1	1	1	AH
1- 9	QACC-A097CBE0	Source cord	1	1	1	AV
1-10	QSW-PA056CBEA	Door switch	1	1	1	AP
1-11	RHOG-A084CBE0	Protector	-	1	1	AN
1-11	RHOG-A091CBE0	Protector	1	-	-	AN
1-15	RC-EZA124CBE0	Running capacitor	1	1	1	AX
1-17	FFS-TA036CBK0	Fuse ass'y	1	1	1	AN
1-19	FW-VZA109CBE0	D timer lead ass'y	1	1	1	AN
1-20	FW-VZA110CBE0	Lead EV-cover ass'y	1	1	1	AP
1-21	FHETBA112CBE0	Def.heater ass'y	1	1	1	AR
1-22	FCNW-A517CBK0	Relay cord S ass'y	1	1	1	AM
1-25	QTAN-A032CBE0	Terminal block	1	1	1	AE
MECHANICAL PARTS						
2- 2	JKNB-A036CBFA	F-temp. control knob	1	1	1	AL
2- 4	LPLTMA404CBE0	FL plate AL.	1	1	1	AD
2- 7	FLEGPA045CBK0	Leg holder L ass'y	1	1	1	AQ
2- 7-1	FAJS-A009CBK0	Adjustable leg ass'y	2	2	2	AD
2- 7-2	LHLD-A354CBM0	Leg holder L	1	1	1	AE
2- 8	FLEGPA046CBK0	Leg holder R ass'y	1	1	1	AQ
2- 8-2	LHLD-A355CBM0	Leg holder R	1	1	1	AE
2-11	PSPAVA078CBEA	Bottom hinge spacer	1	1	1	AD
2-13	DHNG-A281CBM0	Upper hinge ass'y	1	1	1	AH
2-14	DHNG-A283CBM0	Bottom hinge R ass'y	1	1	1	AG
2-15	DHNG-A282CBM0	Center hinge R ass'y	1	1	1	AH
2-16	GCOV-A141CBFA	E. V cover	1	1	1	AV
2-17	LCRA-A010CBE0	Fan clamp	1	1	1	AD
2-19	LHLD-A389CBF0	Motor cushion	2	2	2	AF
2-20	NFANPA011CBF0	Propeller fan 100	1	1	1	AD
2-21	PSEL-B128CBE0	E. V cover sealer A	1	1	1	AD
2-22	PSEL-B129CBE0	E. V cover sealer B	1	1	1	AD
2-23	PSEL-A415CBE0	E. V cover sealer C	1	1	1	AC
2-24	PCOVPA164CBFA	Terminal cover	1	1	1	AE
2-26	PCOV-A151CBFA	Lamp cover	1	1	1	AF
2-27	GCOVPA087CBRA	R-Cbox cover	1	1	1	AT
2-28	HGRL-A149CBRA	Fan louver	1	1	1	AW
2-29	GCOV-A162CBFE	Upper hinge cover	1	1	1	AD
2-31	JKNB-A033CBFA	R-temp. control knob	1	1	1	AD
2-33	LRALPA114CBFA	C-case rail L	1	1	1	AE
2-34	LRALPA115CBFA	C-case rail R	1	1	1	AE
2-36	PCAP-A006CBFJ	Screw cover	1	1	1	AD
2-37	PCAP-A056CBFA	Screw cover B	2	2	2	AC
2-38	PGID-A119CBF0	R-air guider A	1	1	1	AH
2-39	LFRM-A202CBFA	C-box base	1	1	1	AK
2-40	PFPFPA809CBF0	RA-insulation	1	1	1	AD
2-41	PSEL-B244CBE0	Thermo. cap. sealer	2	2	2	AB
2-42	PGID-A118CBF0	R-air guider B	1	1	1	AG
2-49	LSTPPA074CBFA	C-stopper	2	2	2	AD
2-55	HGRL-A134CBFA	Multi louver	-	1	1	AL
2-55	HGRL-A135CBFA	Multi louver	1	-	-	AL
2-56	PFPFPA814CBF0	R-louver insu.	-	-	1	AE
2-56	PFPFPA824CBF0	R-louver insu.	1	-	-	AE
2-56	PFPFPA954CBF0	R-louver insu.	-	1	-	AE
2-57	PSEL-B130CBE0	A-sealer R-louver	-	2	2	AB
2-57	PSEL-B143CBE0	A-sealer R-louver	2	-	-	AC
2-60	LHLD-A391CBE0	SL-5N clip	1	1	1	AD
2-61	LHLD-A391CBE0	SL-5N clip	1	1	1	AD
2-63	LHLD-A388CBF0	Fan motor cushion B	1	1	1	AE
2-64	LHLD-A392CBF0	Fan motor cushion A	1	1	1	AE
2-65	PSEL-B259CBE0	Motor cushion	2	2	2	AD
2-66	PSHEMA132CBP0	Heater cover AL	1	1	1	AD
2-67	LPLTMA403CBP0	Drain support AL	1	1	1	AL
2-70	PSEL-B167CBE0	E. V cover sealer E	1	1	1	AB
2-71	PSEL-A552CBE0	Dial sealer	1	1	1	AC
2-72	PSEL-B120CBE0	A-sealer RC-box	1	1	1	AB
2-73	PSEL-B121CBE0	A-sealer RC-duct	1	1	1	AD

REF. NO.	PART NO.	DESCRIPTION	Q'TY			CODE
			SJ-48H	SJ-51H	SJ-55H	
2-74	PSEL-B122CBE0	A-sealer thermo. cap.	1	1	1	AB
2-75	PSEL-B124CBE0	A-sealer air guid. B	1	1	1	AB
2-76	LHLD-A124CBFB	K-frame holder	1	1	1	AH
2-78	LPLTMA399CBP0	Dryer support	1	1	1	AD
2-79	LBND-A019CBE0	Nylon band	3	3	3	AB
2-80	PBOX-A071CBFA	Terminal box	1	1	1	AE
2-81	PPIPPA069CBE0	Drain pipe S	1	1	1	AH
2-82	PTUBBA058CBE0	Insulating tube	1	1	1	AE
2-83	PSEL-B242CBE0	A-sealer air guid. C	3	3	3	AC
2-84	PSEL-B243CBE0	A-sealer air guid. D	1	1	1	AD
2-86	LBND-A026CBE0	Nylon band	1	1	1	AD
		DOOR PARTS				
3- 5	FDORFA869CBK0	F-door ass'y	1	1	1	BP
3- 5-1	LSTPMA008CBM0	F-door stopper R	1	1	1	AD
3- 5-2	NBRGPA013CBFB	Nylon bearing 2	1	1	1	AH
3- 5-3	LSTPPA082CBFA	FD-stopper spring R	1	1	1	AD
3- 6	FPACGA204CBK0	F-door packing	1	1	1	AZ
3- 9	GLIN-A145CBFA	F-door liner	1	1	1	AX
3-10	PFPFPA810CBE0	F-liner plate	2	2	2	AD
3-12	PFPFPA852CBE0	F-liner plate bottom	1	1	1	AD
3-14	PSEL-B126CBE0	F-door sealer	3	3	3	AG
3-15	FDORRA740CBK0	R-door ass'y	-	1	-	BS
3-15	FDORRA743CBK0	R-door ass'y	-	-	1	BS
3-15	FDORRA744CBK0	R-door ass'y	1	-	-	BQ
3-15-1	LSTP-A058CBM0	R-door stopper R	1	1	1	AF
3-15-2	NBRGPA022CBFA	Nylon bearing 3S	1	1	1	AC
3-15-3	LSTPPA084CBFA	RD-stopper spring R	1	1	1	AD
3-15-4	PCAP-A055CBFA	Bearing cap	1	1	1	AB
3-16	GLIN-A146CBFA	R-door liner	-	1	-	BE
3-16	GLIN-A147CBEA	R-door liner	-	-	1	BA
3-16	GLIN-A148CBEA	R-door liner	1	-	-	AX
3-17	FPACGA205CBK0	R-door packing	-	1	-	BB
3-17	FPACGA206CBK0	R-door packing	-	-	1	BA
3-17	FPACGA207CBK0	R-door packing	1	-	-	AZ
3-20	PFPFPA811CBE0	R-liner plate	-	2	-	AF
3-20	PFPFPA819CBE0	R-liner plate	-	-	2	AG
3-20	PFPFPA822CBE0	R-liner plate	2	-	-	AF
3-25	HBDGDA759CBEC	Badge	1	1	1	AM
		OTHER PARTS				
4- 1	LBND-A023CBE0	L-band C	5	5	5	AC
4- 3	LX-VZA003CBE0	Special screw	2	2	2	AB
4- 9	QTAN-A012CBE0	Solderless term. B	3	3	3	AH
4-14	LX-WZA013CBE0	Hinge washer	1	1	1	AB
4-15	LX-BZA018CBE0	Special screw	1	1	1	AA
4-17	LX-WZA003CBE0	Washer	4	4	4	AA
		ATTACHMENT PARTS				
5- 1	UPOK-A120CBRA	Bottle pocket HS	2	2	2	AQ
5- 2	UPOK-A117CBRA	Egg pocket HS	1	1	1	AM
5- 3	UPOK-A119CBRA	F door pocket HS	2	2	2	AT
5- 4	UPOK-A118CBRA	Utility pocket HS	1	1	2	AM
5- 5	UTNA-A167CBFC	Egg tray	2	2	2	AG
5- 6	FSRA-A149CBY0	Ice cube maker	1	1	1	AU
5- 7	LFRM-A200CBFA	Ice maker	1	1	1	AW
5- 9	USRA-A180CBFA	Freezer tray L	1	1	1	AX
5-11	USRA-A179CBFA	Freezer tray S	1	1	1	AX
5-12	HDECQA360CBEA	Glass shelf trim	1	1	1	AK
5-13	HGRL-A151CBFE	Ventilating grille	1	1	1	AR
5-14	USRA-A177CBFA	Evaporating pan	1	1	1	AS
5-15	UTNA-A227CBE0	Glass shelf	1	1	1	BB
5-16	UYOK-A180CBFA	Vegetable case	1	1	1	AZ
5-17	UYOK-A087CBFF	Ice storage box	1	1	1	AM
5-18	UYOK-A179CBFA	Chilled case	1	1	1	AS
5-19	GDORPA042CBRA	Chilled door HS	1	1	1	AP
5-20	UTNA-A230CBFA	Free set shelf F	1	1	1	AV
5-21	UTNA-A229CBFA	Free set shelf B	1	1	1	AS
5-24	FSRA-A160CBK0	Ref. tray L ass'y	1	1	2	BB
5-25	FSRA-A161CBK0	Ref. tray ass'y	-	1	1	BA
5-26	PCAP-A053CBEE	Venti. grille cap	1	1	1	AE
		CYCLE PARTS				
6- 1	PCMPLA130CBE0	Compressor	-	1	1	CA

REF. NO.	PART NO.	DESCRIPTION	Q'TY			CODE
			SJ-48H	SJ-51H	SJ-55H	
6- 1	PCMPLA134CBE0	Compressor	1	-	-	BY
6- 2	PSPAGA028CBE0	Rubber grommet	4	4	4	AD
6- 3	FCONSA051CBK0	Sub. condenser ass'y	-	1	1	AR
6- 3	FCONSA052CBK0	Sub. condenser ass'y	1	-	-	AP
6- 4	FFRM-A085CBK0	Base frame ass'y	1	1	1	AG
6- 5	FDRY-A006CBK0	Dryer ass'y	1	1	1	AX
6- 6	PCLI-A035CBE0	Clip	1	1	1	AC
6- 9	PSPAFA020CBE0	Sleeve	4	4	4	AB
6-12	LANG-A024CBP0	Absorbent rubber CLM	1	1	1	AC
6-13	LHLD-A061CBF0	Evaporating pan holder	2	2	2	AD
6-14	PGUM-A002CBF0	Absorbent rubber B	1	1	1	AH
6-15	PGUM-A003CBF0	Absorbent rubber B	1	1	1	AH
6-16	PGUM-A004CBF0	Absorbent rubber A	1	1	1	AH
6-18	PPIPCA222CBE0	Charge pipe L	2	2	2	BC
6-21	PCOVPA165CBE0	Terminal cover	1	1	1	AF
6-25	PPIP-A066CBE0	Connector pipe	-	1	1	AG

MISCELLANEOUS

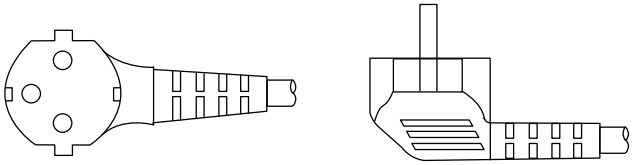
90-1	TINS-A388CBR0	Operation manual	1	1	1	AF
90-2	TLAB-A092CBR0	Lamp label	1	1	1	AD
90-3	SPAKCH396YDE0	Packing case 51H	-	1	-	BF
90-3	SPAKCH399YDE0	Packing case 55H	-	-	1	BH
90-3	SPAKCH401YDE0	Packing case 48H	1	-	-	BF
90-5	TLAB-A617CBE0	Case label WH	4	4	4	AD
90-6	CPADBA501YDK0	Bottom pad ass'y	1	1	1	AY
90-7	CPADBA495YDK0	Top pad ass'y	1	1	1	AS

HOW TO ORDER REPLACEMENT PARTS

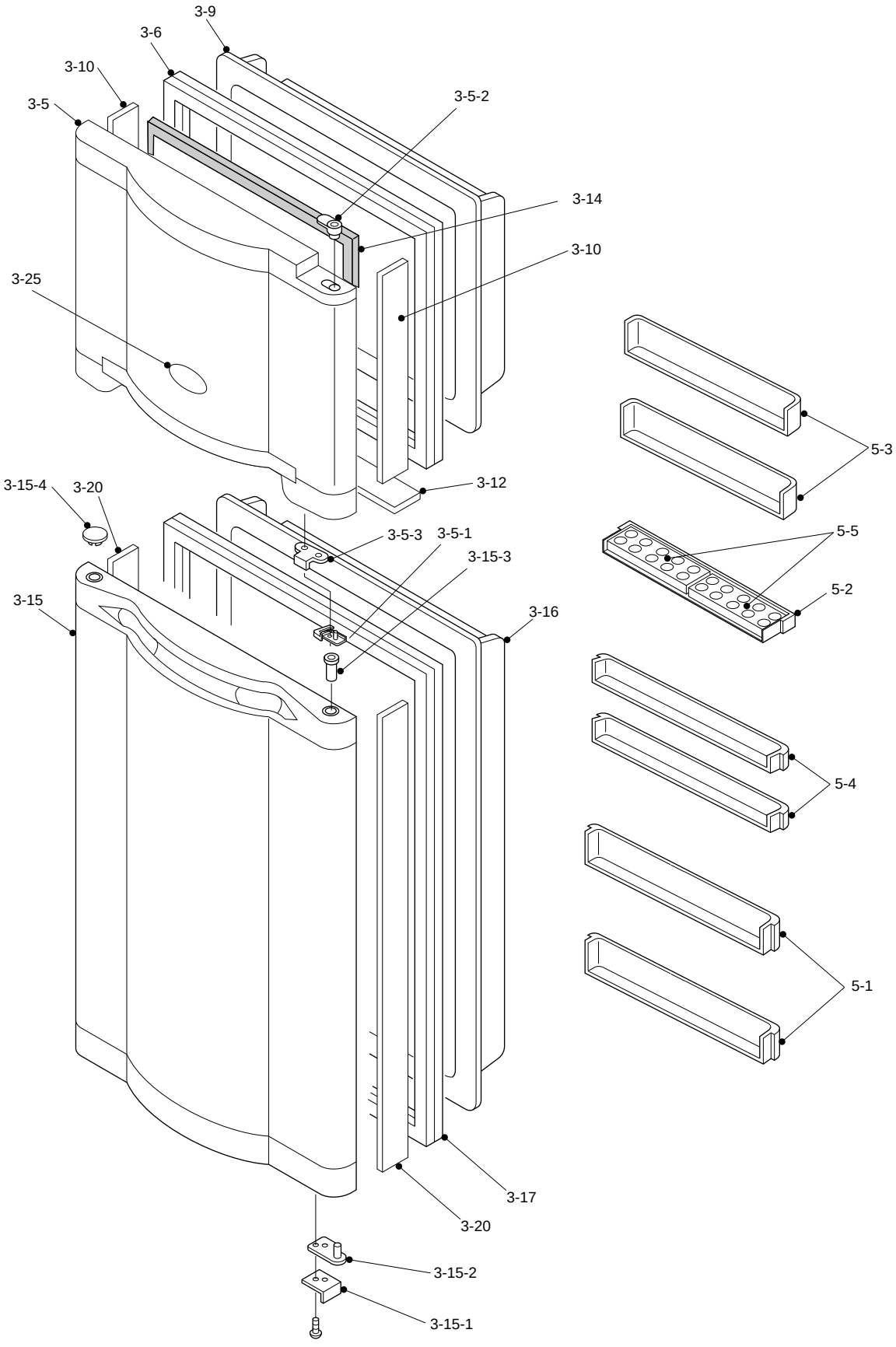
To have your order filled prompty and correctly, please furnish the following information.

1. MODEL NUMBER 2. REF. NO.
3. PART NO. 4. DESCRIPTION

● PLUG TYPE

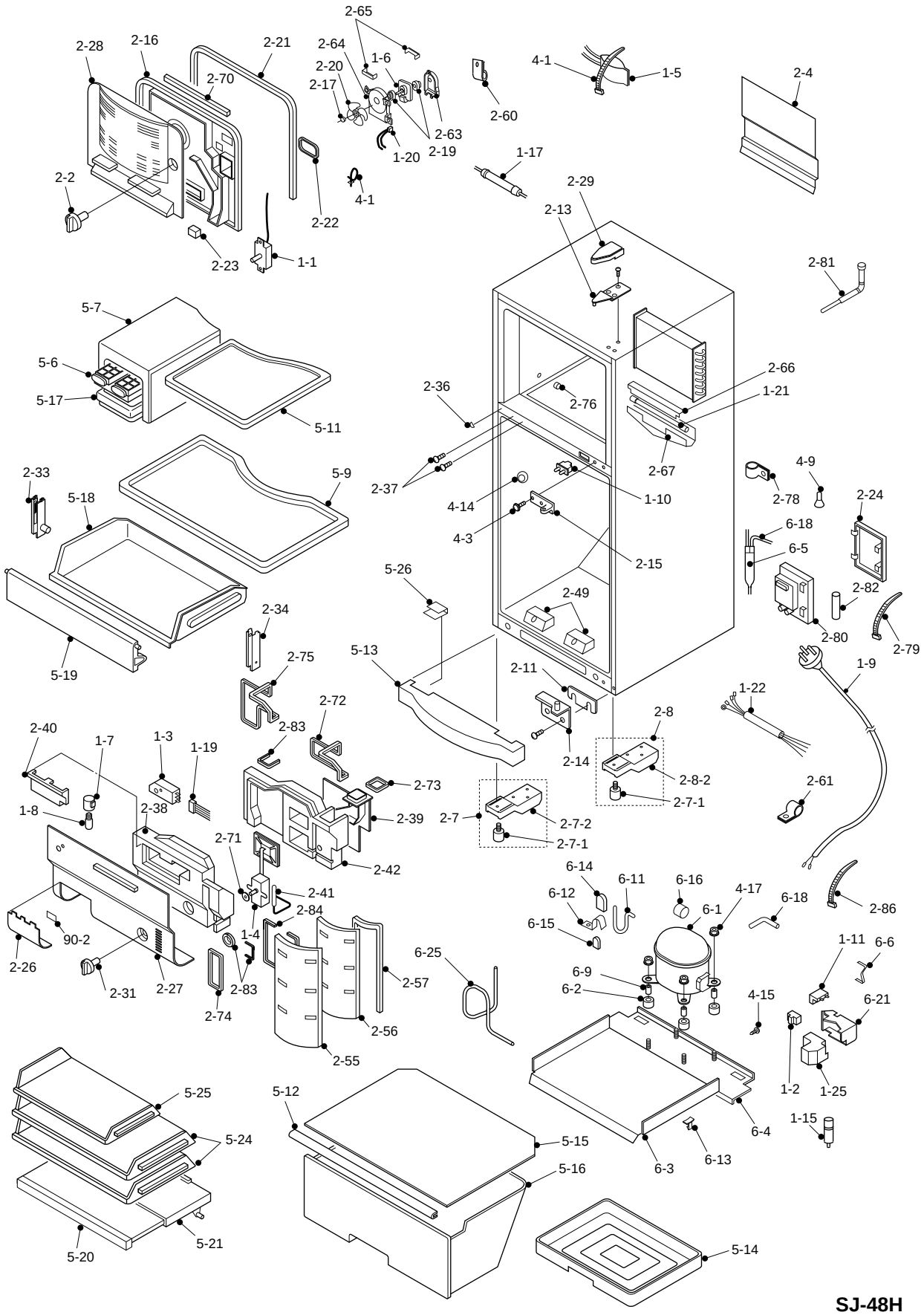
Type	Plug	Section of Power Supply Cord	Destination
CS			O

DOOR PARTS



SJ-48H
SJ-51H
SJ-55H

CABINET PARTS



SJ-48H
SJ-51H
SJ-55H

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SHARP SERVICE MANUAL

REFRIGERATOR

HFC-134a COOLING UNIT

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SHARP CORPORATION

’96 SPECIFIC FREON REGULATIONS

(1) Outline

The Freon which is used for the refrigeration system and heat insulation of refrigerators is incombustible and harmless to men directly, and has many outstanding features and has contributed to the development of civilization as one of important useful substances. Nevertheless, as it has been revealed that some of them (specific Freon) which was used for cleaning agent, blowing agent and refrigerators deplete the ozone layer, and it has been decided to discontinue production of Freon till the end of 1995 and to use other substances less affecting the ozone layer in place of Freon in the worldwide scale.

SHARP Corporation has decided to disuse Freon, use of which is regulated by the Montreal Protocol, and to use the alternative Freon HFC-134a as a refrigerant and the nonfreon heat insulator as a heat insulation.

(2) Features of HFC-134a cycle and cautions

1. Cautions when changing the refrigerant (from CFC-12 to HFC-134a)

1) Use of any refrigerant and cleaning agent, containing chlorine, is absolutely prohibited.
2) Since the dryer for CFC-12 cannot be used, only the dryer for HFC-134a is used.
   Because the refrigerant has smaller molecules, different desiccant is needed.
3) The gas leakage sensors (for CFC-12 and HFC-22) which are used at present cannot be used.
   (The former leakage sensors are designed to detect the chlorine contained in Freon. But HFC-134a does not contain the chlorine.)
4) The repair tools should be for the use of HFC-134a only.
   The rubber-based material (sealing material) which is used for the tools at present expands and its tension reduces. Therefore the specified tools must be used (the rubber-based material has been modified).

2. Change of compressor oil

Change from naphtene-based mineral oil or a-olefin-based synthetic oil to ester-based oil.

1) The compressor and dryer need vacuum evacuation within 15 minutes after the cap is opened.
   The quantity of saturated water in the ester-based oil is 200 ppm, namely 40 times higher than that of conventional oils.
   (Since the ester-based oil reacts with water, forming acids. These acids react with the metals, forming metal salts which cause clogging of capillary tube. Therefore the time must be strictly controlled after the plugs of compressor and dryer are opened.)
2) The tools only for HFC-134a cycle must be used. The new materials and parts must be cleaned.
   The solubility of ester-based oil for HFC-134a and the conventional oils (compressor oil for CFC-12, anticorrosive oil for couplers and pressure gauges) is extremely low (10 to 20 ppm) . If a small quantity of conventional oil enters into the cycle, the capillary tube outlet may be clogged. Therefore the use of the tools which are used at present (for R-12, R-22, R502) must be absolutely prohibited, and the new tools only for HFC-134a must be used instead.(All the tools which may cause entry of the conventional oil into the cycle) (such as refrigerant containers, charging cylinders, couplers, pressure gauges, hoses, valves, gauge manifolds, vacuum pumps, pipe cutters, etc.) and the new tools must be cleaned with ethyl alcohol. Even when several mg of oil enters into the cycle, the performance is degraded.
3) The use of flux for welding is prohibited.
   Although, in principle, there is no weld joint of iron pipes and copper pipes, the flux dissolved in the water may cause the entry of water into the cycle. Therefore it is forbidden to use the welding flux.
   ※ The use of flux for welding for the models SJ-24F,SJ-42F,SJ-45F,SJ-48F type.
   Flux shall be melted with pure water so as not to enter the chlorine (in the water supply) into the system.And flux shall not be into the system.

3. Vacuum level (improvement of vacuum level)

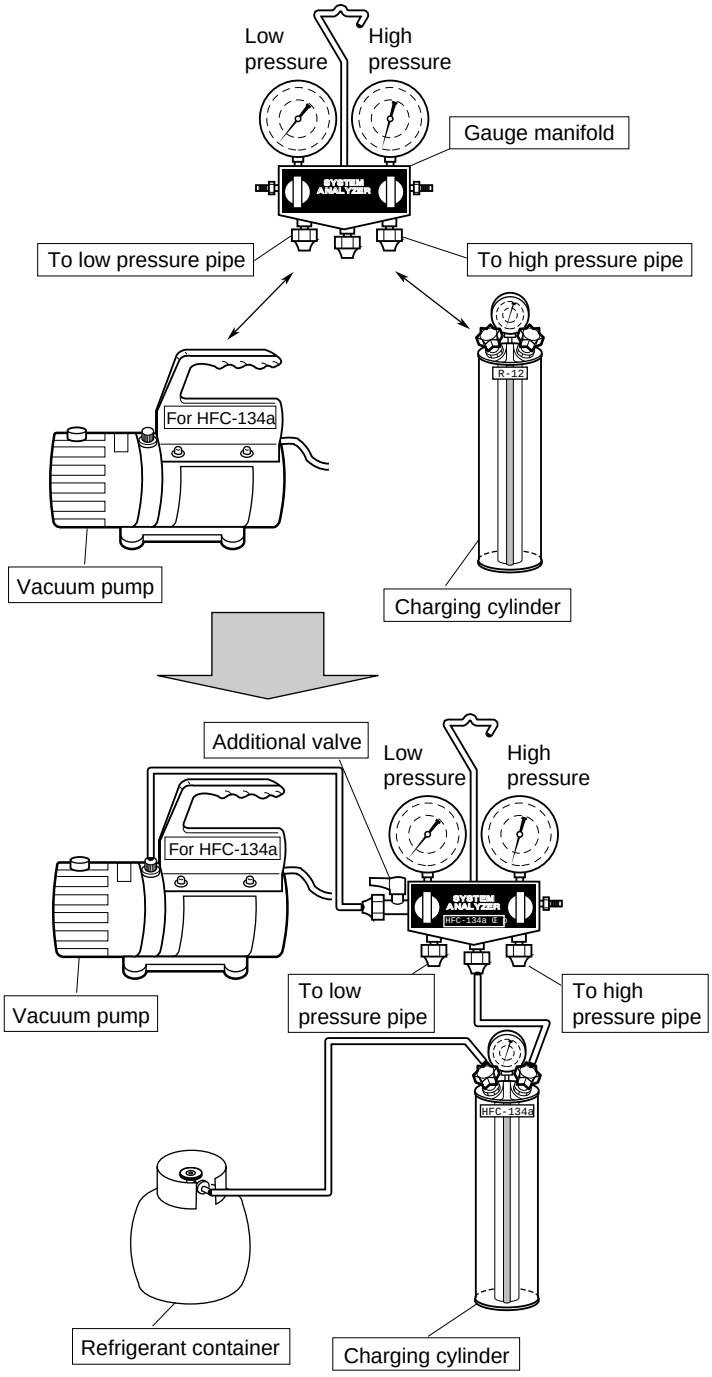
1) The work is executed according to the vacuum evacuation and gas charge procedure shown in the attached document.
   The air in the cycle, especially the oxygen, causes oxidation of ester-based oil. The oxidized oil reacts with the metal, forming the metal salt which causes clogging of capillary tube. Therefore high vacuum level is required.

4. Execution of nitrogen replacement in case of brazing

1) Since the oxide scale in the piping which is formed as a result of brazing causes clogging of capillary tube, the nitrogen replacement of piping is required when welding is performed.

OUT LINE OF CYCLE REPAIR CEOURE FOR HFC-134a

[For CFC-12]
When the cycle repair is required, the vacuum pump and the charging cylinder are connected to the gauge manifold as shown below. The cycle for the HFC-134a needs the improvement of vacuum level.



[For HFC-134a]

1. In case of brazing, nitrogen replacement is performed. So as to prevent clogging of capillary tube due to formation of oxide scale.
2. The port for the vacuum pump is provided on the gauge manifold so as to improve the vacuum level, and the valve is additionally installed here so as to prevent entry of noncondensing gas (air).
3. So as to reduce the servicing time the following operations are performed by using the piping arrangement shown in the figure.

   Primary vacuum evacuation (5 minutes)
   ↓
   Gas charging (50 g)
   ↓
   Secondary vacuum evacuation (20 minutes)
   ↓
   Gas charging (specified quantity)

4. It is not allowed to use the service tools designed for the CFC-12. Therefore the new service tools must be prepared. The connections must be changed from 1/4" type to 3/8" type.

Caution:

- The equipments which are used for servicing, such as couplers, vacuum pumps, pressure gauge hoses, valves, charging cylinders, etc. must be the specialized ones for HFC-134a.
  The new parts and materials must be cleaned with ethyl alcohol. The non oil treat parts must be used.
- Compressor
  The compressor designed especially for HFC-134a must be used.
  The time required for preparation after unpacking to start vacuum evacuation must be less than 15 miniutes.
- Gas leak disposal
  If gas leak was found in the refrigeration cycle, be sure to replace the compressor and dryer as an assembly.
  The compressor must be replaced with new one without fail irrespective of whether it is at low pressure side or high pressure side.

CYCLE REPLACEMENT PROCEDURE

1. NITROGEN REPLACEMENT PROCEDURE

1) Remove the compressor and dryer.
2) Install the new compressor on the base frame.
3) Connect all the pipes excepting the connection of dryer and capillary tube.
4) Connect the nitrogen gas tank to the charging pipe of compressor, apply pressure of about 80 x 10^4 Pa (approx. 8 kg/ cm^2f) for 3 to 5 seconds to blow out the air in the pipes (nitrogen replacement). See Figure 1.
   At this time ascertain that the gas is discharged from the dryer and capillary tube.
5) Braze the connections except the connection of dryer and capillary tube.
6) Connect and braze the dryer and capillary tube.
7) Connect the nitrogen gas tank to the charging pipe of compressor, apply pressure of about 100 x 10^4 Pa (approx. 10 kg/cm^2f), and check for leak, using soapy water.

※ If leakage is found, thoroughly wipe off the soapy water from the leaking part, and reduce the nitrogen pressure so as to prevent entry of moisture into the pipe.

Caution:

- If all the pipes cannot be connected at the same time, blow separately the high pressure side and low pressure side with nitrogen. See Figure 2 and Figure 3.

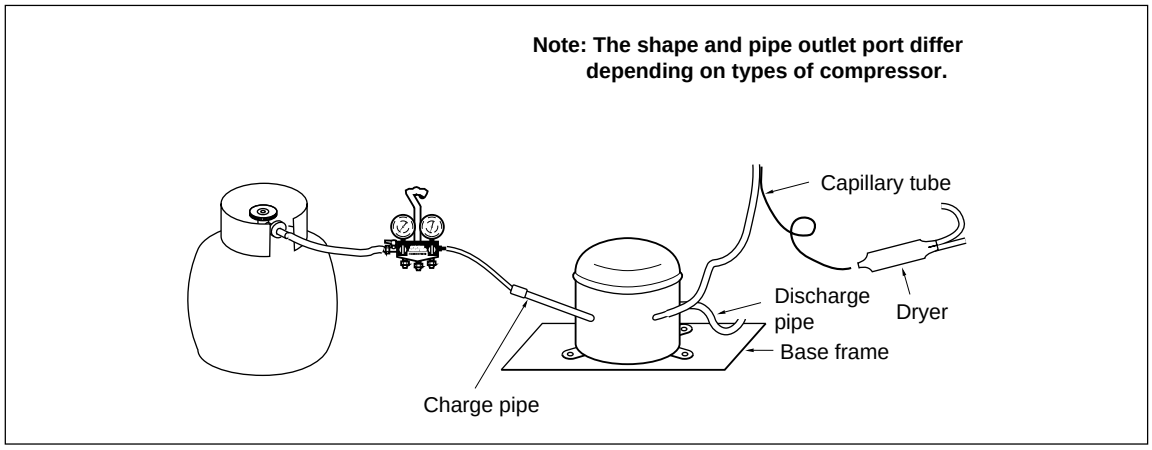


Figure 1

- **HIGH-PRESSURE SIDE NITROGEN BLOW**

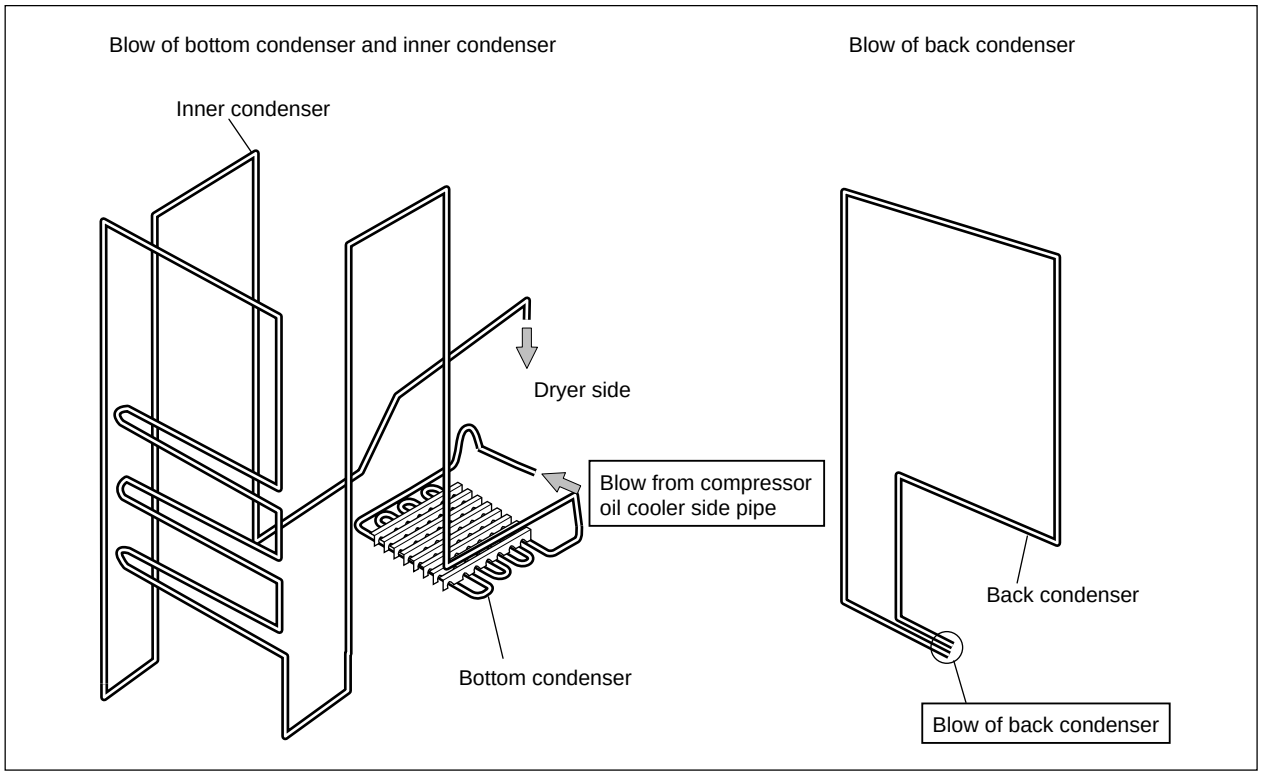


Figure 2

- **LOW-PRESSURE SIDE NITROGEN BLOW**

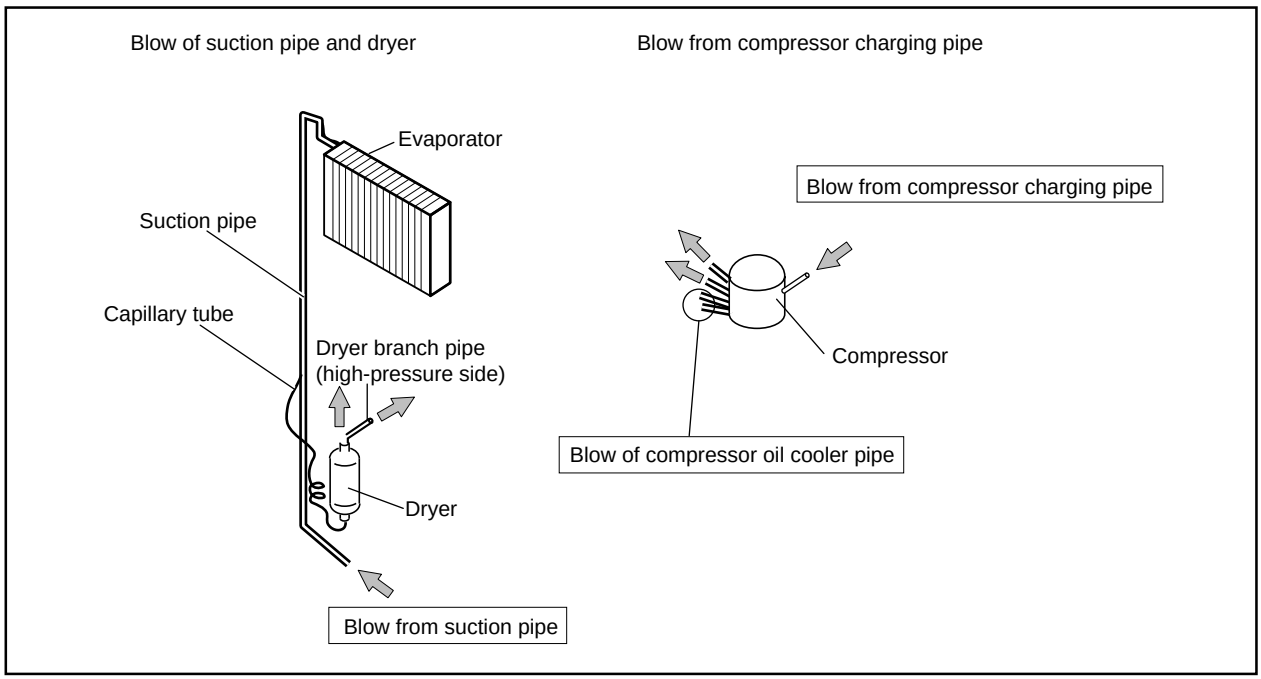


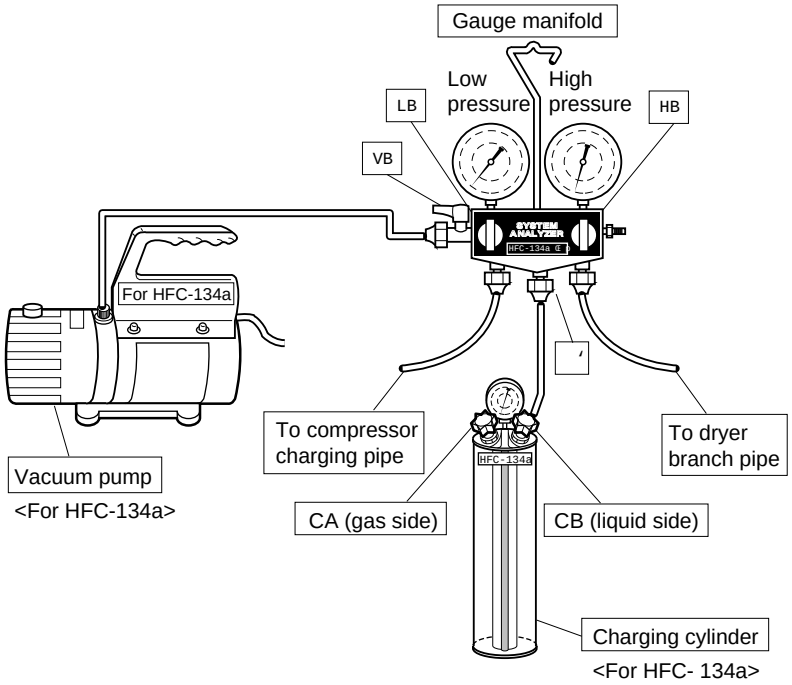
Figure 3

2. VACUUM EVACUATION AND GAS CHARGE PROCEDURE

VACUUM EVACUATION

Vacuum evacuation

The process to be performed is (1) Vacuum evacuation (5min.) → (2) Refrigerant charge (50 g) → (3) Vacuum evacuation (10 min.) → (4) Refrigerant charge (specified quantity). Do not stop the power supply of the vacuum pump until completion of works (1) to (3) shown above so as to prevent back-flow of vacuum pump oil. Perform thework in the following procedure.



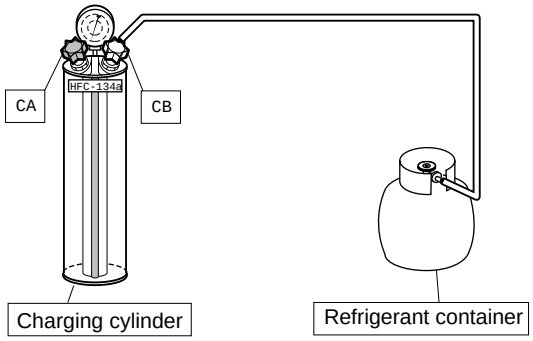
State of vale shown in figure

Marks indicating the state of valves shown in the figure

● ..... Valve closed
○ ..... Valve opened

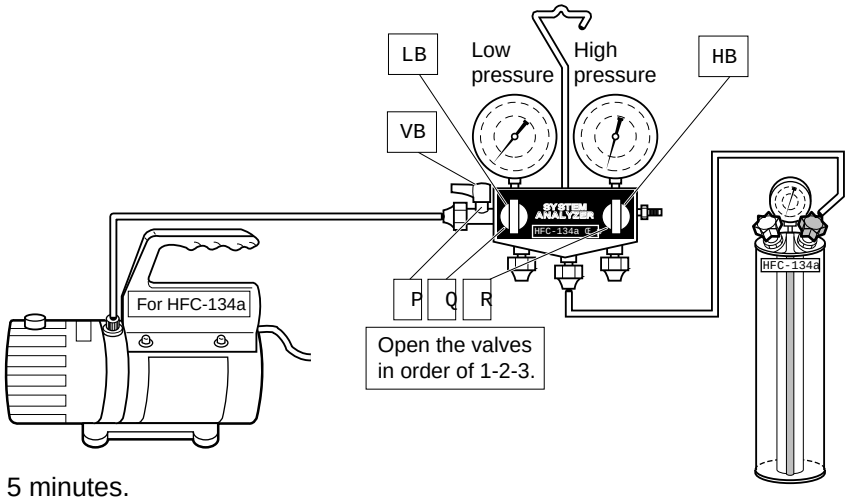
PREPARRATION

1) Fill the charging cylinder with the refrigerant in advance.
   Note: When filling the charging cylinder with the refrigerant, be sure to discharge air from the cylinder and hose. (Specified filling quantity + 50 + ¿)
2) Connect the tools as shown in the figure, and close all the valves.
3) Connect the starting relay and protector to the compressor so that it can be started.

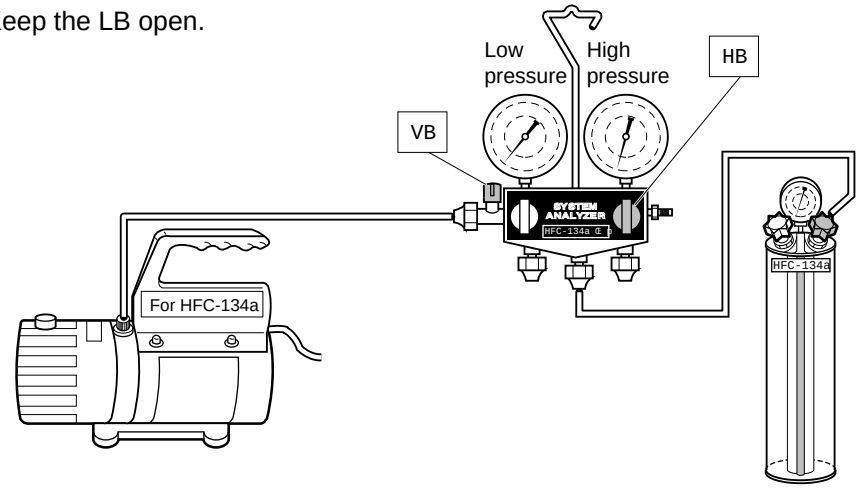


WORKING PROCEDURE

1) Start the vacuum pump.
   (Do not stop the pump until completion of vacuum evacuation of step (13).)
2) At first open the VB valve, and then open the LB and HB valves.

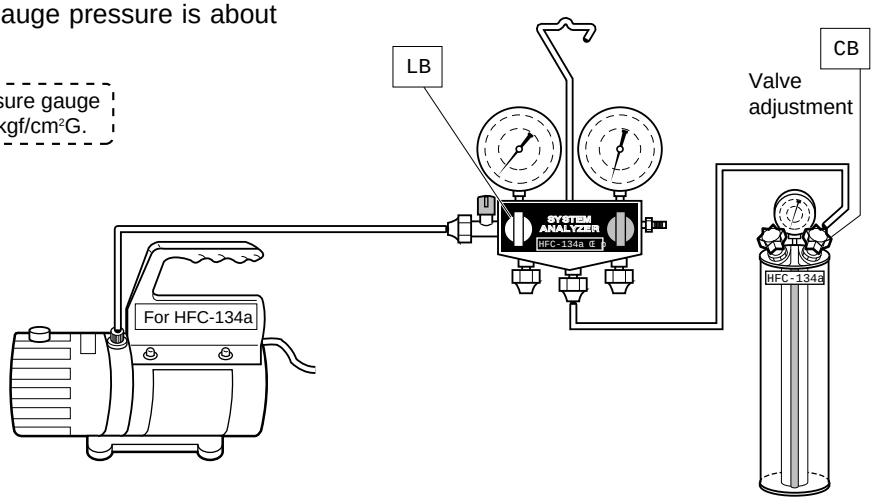


3) Perform vacuum-evacuation for 5 minutes.
4) After completion of vacuum evacuation for 5 minutes close the HB and VB valves. Keep the LB open.

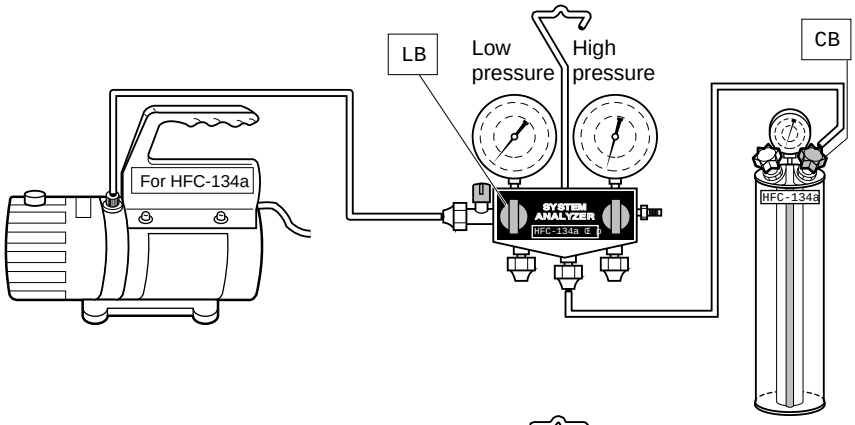


5) Open the CB valve, and supply about 50 g of refrigerant into the cycle from the LB side.
   At this time the low pressure gauge pressure is about 3 to 4 kgf/cm^{2}G.

At this time the low pressure gauge pressure is about 3 to 4 kgf/cm^{2}G.

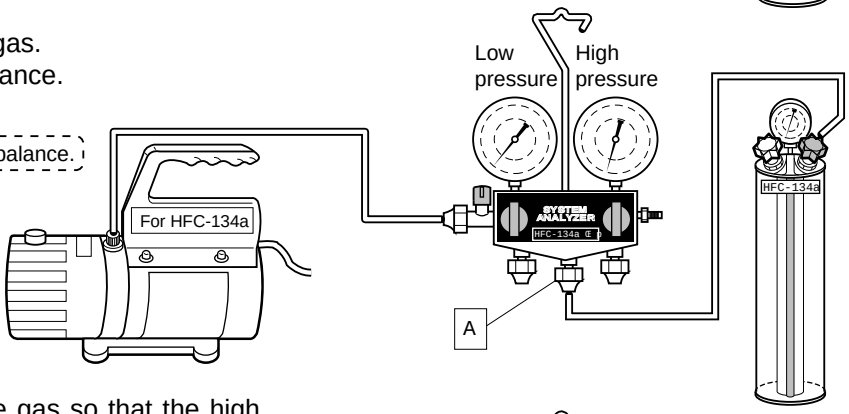


6) Close the CB and LB valves (close all the valves).

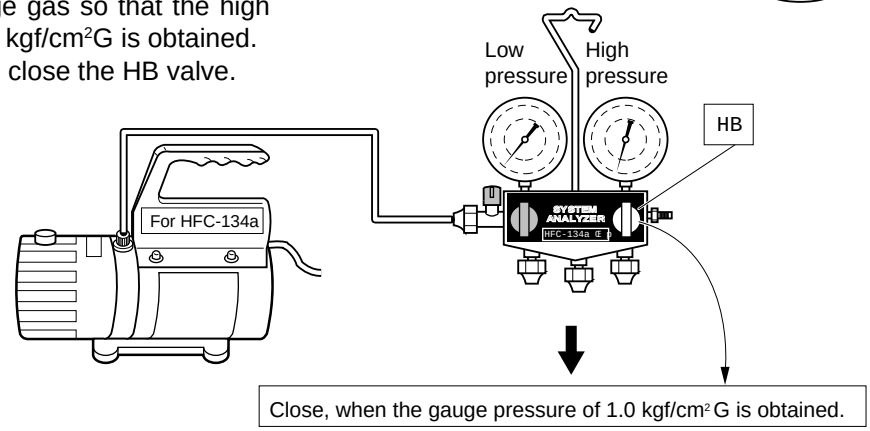


7) Loosen the joint A to discharge gas.
Check the high-low pressure balance.

Check the high-low pressure balance.

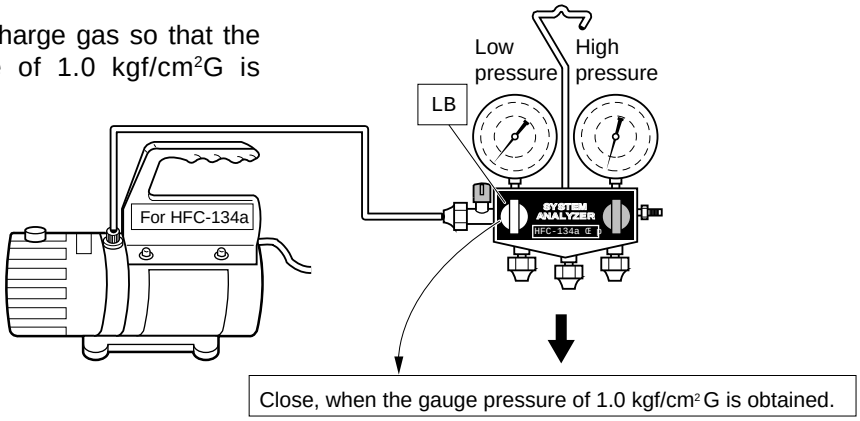


8) Open the HB valve to discharge gas so that the high pressure gauge pressure of 1.0 kgf/cm^{2}G is obtained.
When 1.0 kgf/cm^{2}G is obtained, close the HB valve.

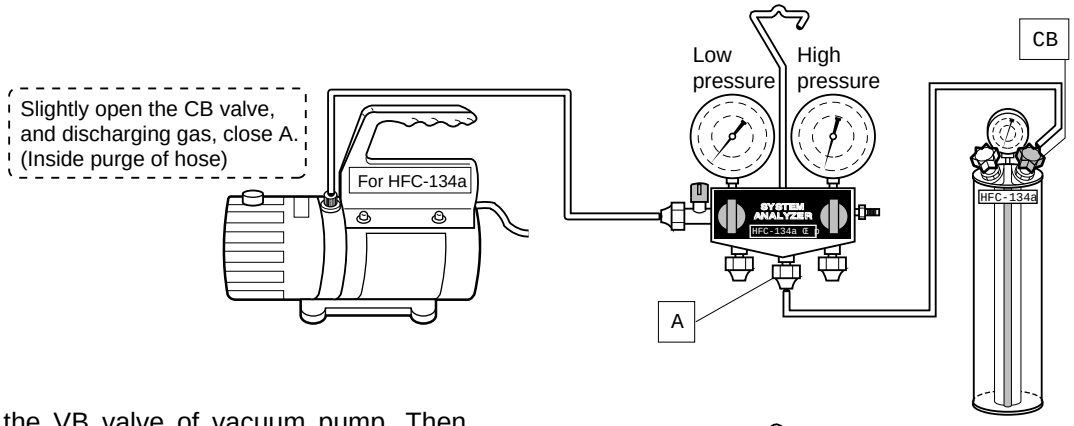


9) Then, open the LB valve to discharge gas so that the low pressure gauge pressure of 1.0 kgf/cm^{2}G is obtained.

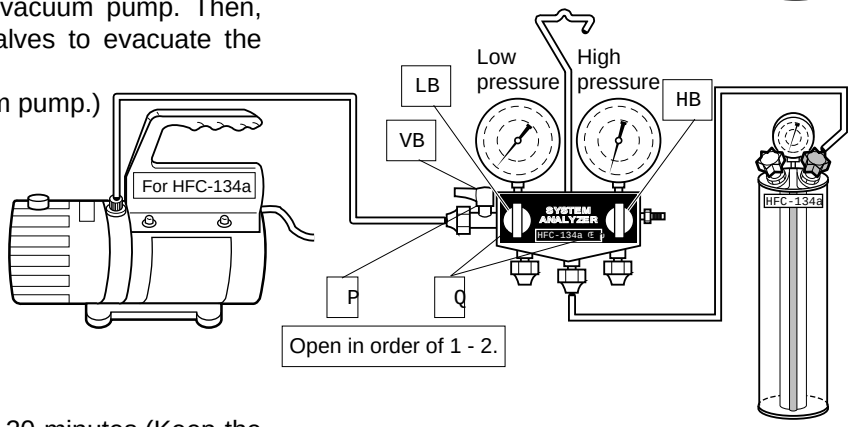
Cares when performing the Steps (8) and (9)
Discharge the gas remaining in the cycle.
At this time do not allow entry of air into the cycle.
Never allow the gauge pressure to drop below 1.0 kgf/cm^2 G.



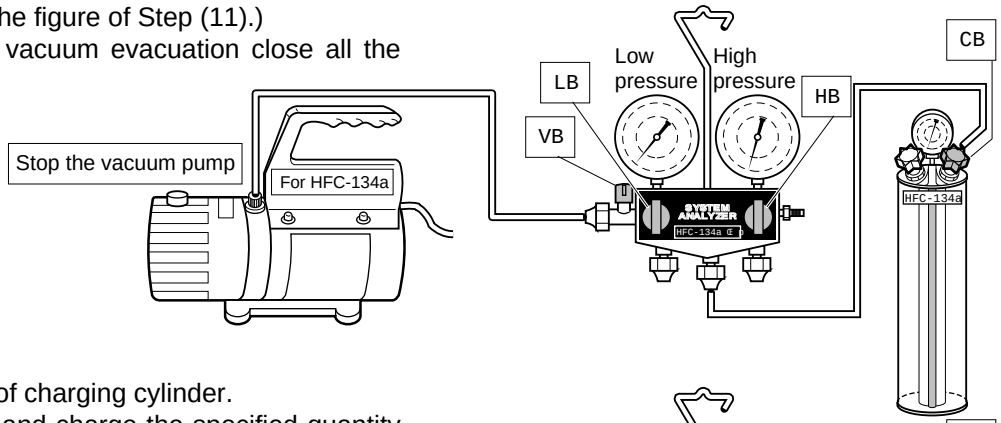
10) Close the joint A which has been loosened in Step (7).



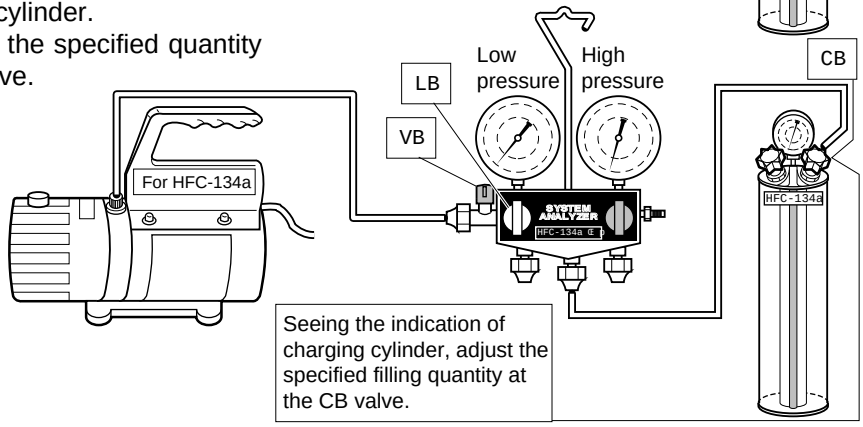
11) At first open the VB valve of vacuum pump. Then, slowly open the LB and HB valves to evacuate the cycle.
(Do not apply load to the vacuum pump.)



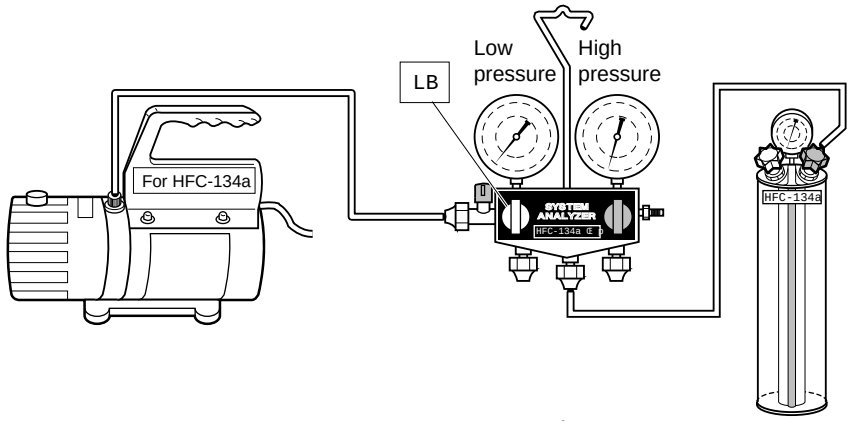
12) Execute vacuum evacuation for 20 minutes.(Keep the valves as shown in the figure of Step (11).)
13) After completion of vacuum evacuation close all the valves.



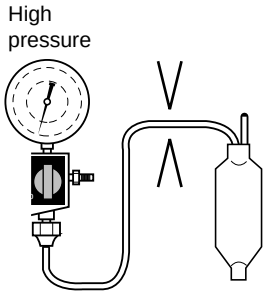
14) Read the indication of charging cylinder.
15) Open the LB valve, and charge the specified quantity of refrigerant through the CB valve.



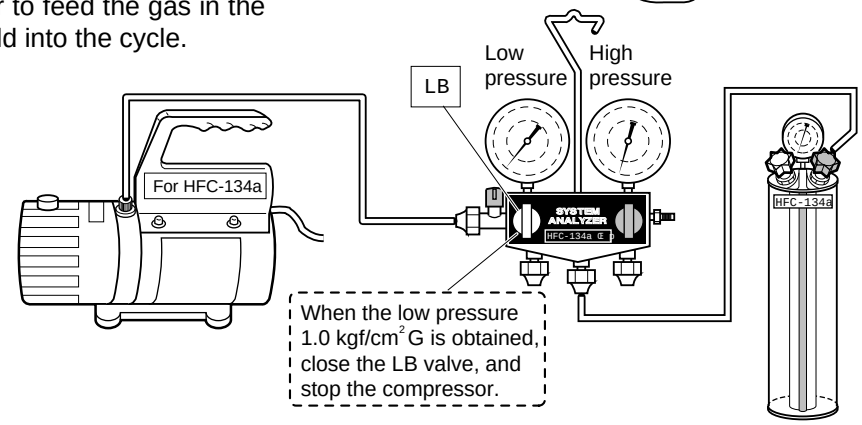
16) Valve state after refrigerant filling (Only the LB valve is open.)



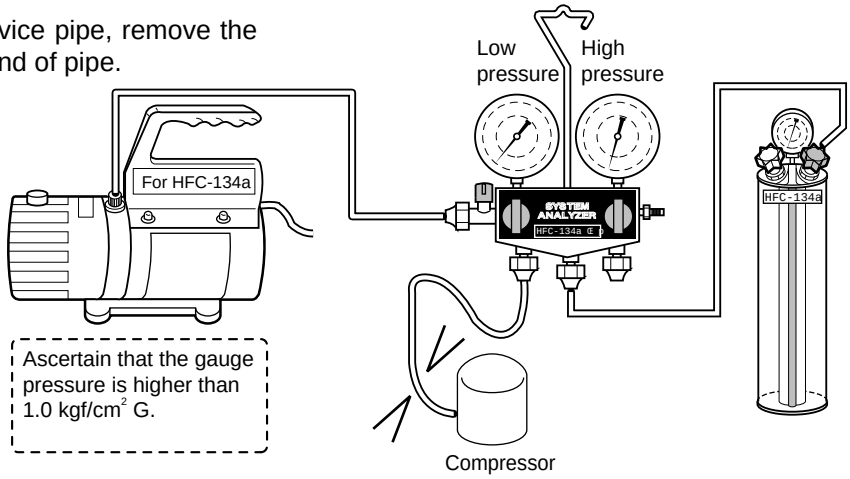
17) Ascertain that the high pressure gauge indicates 1.0 kgf/cm^{2}G or more, pinch the high pressure side service pipe with the pinching jig, remove the gauge manifold, and braze the front end of pipe. (If pinching is performed while the high pressure gauge pressure is lower than 1.0 kgf/cm^{2}G, air may be sucked in.)



18) Run the refrigerator compressor to feed the gas in the charging hose and gage manifold into the cycle.



19) Pinch the low pressure side service pipe, remove the gauge manifold, and braze the end of pipe.



20) Run the compressor, and check the refrigerator is cooled.
(Ascertain that the temperature of discharge pipe and condenser rises.)

END

Notes:

(1) The procedures stated above are intended to attain the high vacuum level required for HFC-134a and to prevent back flow of vacuum pump oil into the cycle.
(2) The works stated above must be performed with the use of service and repair equipment and jigs for HFC-134a. Never use the service equipment and jigs for conventional CFC-12.

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